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TRANSACTIONS

OF THE

Seventh International Congress of Hygiene and Demography.

LONDON, AUGUST 10TH–17TH, 1891.

Patron:—HER MAJESTY THE QUEEN.

President:—H.R.H. THE PRINCE OF WALES, K.G.

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SECTION IV.

INFANCY, CHILDHOOD, AND SCHOOL LIFE.

EDITED BY C. E. SHELLY, M.A., M.D.,
Assisted by the HONORARY SECRETARIES of the SECTION.

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EDITED BY [illegible]

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SECTION IV.

INFANCY, CHILDHOOD, AND SCHOOL LIFE.

Tuesday, 11th August 1891.

The Chair was successively occupied by
The PRESIDENT;
Dr. KOTELMANN;
Dr. CHEADLE.

Presidential Address

BY

JOSEPH R. DIGGLE, M.A., Chairman of the London School Board.

We have met, from all parts of the world, to take counsel together of the things which pertain to the well-being of the State. It is natural, therefore, that all that makes for the welfare of the children should come under our purview. Not that the children are less under the charge of their parents because they form a principal care of the State, but that the collective ripened experience of the community may be an assistance to the individual guardian of the child.

Care for all children as children, and not for the apparently strong and useful of their number, is the outcome of Christian civilisation. We do not look upon them merely as the means of perpetuating the human race. In the weakest and frailest amongst them we discern the latent capacity for a higher life; and precisely because in their case the physical organism hides rather than exhibits the true child, the duty is more clearly laid upon us of assisting the child to break through the barrier of hostile physical defects. In the performance of that duty the State has learnt to place a right value upon even imperfect human life, and the laws of Christian communities increasingly reflect in that regard the common sentiment of their peoples. It may be that one of the chief abiding results of this International Congress will be to quicken into active thought for these things any national conscience now lying dormant.

The broadest measure of the State estimation of child life is the care which the State bestows upon the education of children. Involved in the very idea of education is the perception of the innate capacity of the child for larger development. And this capacity varies with each child. Children are as alike and as diverse from each other as the leaves of the forest trees. Whilst we think of children, and care for them, collectively in large numbers, we must beware lest we lose in this collective dealing with them our grip of the individual characteristics of each child.

It is at this point that the danger of confounding education with teaching comes in. Our habit is to speak of the one thing as if it were the equivalent of the other. They are rather the complement of each other. Acting in unison, they are allied forces carrying into effect a common plan: acting apart from each other, they are like foes encamping upon a common ground. Let us therefore at the outset firmly grasp this principle, that teaching may often in no way mean education, and that the teacher may sometimes be educating in a manner directly opposed to his teaching. An educator, as apart from a teacher only, is one who has large sympathies with the children, and understands the higher possibilities of their nature. His function is to help the child to feel his way about the world, to understand something of the things he meets with, and to throw the light of a riper experience upon the path which opens before him. The ideal is a lofty one, but it is not incapable of general attainment; and the pressing need of the time is to raise teachers to the height of educators, and teaching to the level of education.

No successful work, therefore, can be performed with children, unless there be first of all a thorough appreciation of the value of the material with which we work. It is an obvious truth, but like many other things equally obvious, it is frequently overlooked. There are thousands amongst us who are keenly alive to the importance of training for dogs, or horses, or cattle, who would practically allow the children to grow up anyhow. And the parents are not few who would throw upon the State the responsibility which nature has imposed upon them of caring for their own offspring.

Perhaps the most difficult of all social problems arises here. The value of child life to the State is not less because surrounding the child there may be the vicious influences of parental neglect. Take, for example, the much debated subject of providing for destitute children, and for the children perhaps more destitute still in fact, though not in the eyes of the law, without at the same time loosening the tie of parental responsibility, and weakening the force of its obligation. The immediate solution of the problem surely depends upon the point of view from which it is regarded. Some think that the immediate thing to be done is to safeguard what appear to be the general interests of the State. Others think that the immediate thing to be done is at once to succour the child. One path travels down from the State to the child, the other travels up from the child to the State. Believing as I do in the untold value of child life to every State, I infinitely prefer

the second mode of dealing with the problem. Without in the least hindering every effort to reform bad parents, the most hopeful course in the interests of the State appears to me to be the training up of children to be strong and good. What I would once more enter a protest against is the plan of leaving the child to act as a sort of buffer between the engine of the State and the stolid inert mass of parental neglect.

For, in truth, the necessity for State interference at all in the upbringing of children arises from some form or other of parental neglect, coupled with the advantages which the complete organisation of the State offers as a means of co-operating with good parents in the performance of a natural duty. In theory, the whole duty lies with the parent; but the advantages of co-operation become apparent in the employment of a teacher, in the use of a school as a common home, and still more in the general supervision which the State exercises in order to ensure that both teacher and school are adequate for their purpose. In all cases, to some extent, the State interferes. The moot point is in what aspect the interference shall be regarded. Are we to look upon it as the natural and permanent attitude of the State, or as a temporary and makeshift provision for a pressing need until a better ideal can be attained? Which point of view affords the best outlook for the future? That the State should think for all, and act for all, or that State powers should be strictly limited to their narrowest extent, and the fullest possible play should be given to individual responsibility and action? Shall we look upon children as being primarily the children of the State, or of each separate home? Working as I do along the path which leads from the child to the State, between the child and the school I find the home. Is the action of the State to touch the internal economy of the home? Would it be well for the home that the action of State interference should be perceptible there? And if not well for the home, is it well for the child?

Whatever may be the outcome of the future, it is clear that some sort of State interference is a necessity for the present. The exigencies of our modern civilisation, not less in our crowded cities than in our thinly-peopled villages, invite the intervention of the State in the interests of the general community. The influence of law surrounds and presses upon us like a social atmosphere. Our main business is to take due precautions that the intervention of the State, where it occurs, shall proceed upon right lines, and in directions where experience indicates that success will attend upon it.

Thus the healthiness of the schoolroom, the suitability of its arrangements and of its surroundings for the purposes of a school, its appointments for the purposes of teaching, are all matters of vital importance to the whole of the community who make use of it. In what manner these things can best be secured the papers and discussions of this Congress may help to point out with clearness and fulness.

Again, the entire range of the teaching which is intended for the development of the whole child concerns the community still more than the general suitability of schoolrooms as places where teaching is given.

Not a part only, but the whole of a child's nature demands separate care. Unless the community makes this, too, a matter of the deepest concern, it is destroying a part of its natural wealth. At times there has been a tendency to make the range of teaching coincide too much with the knowledge of books and too little with the experience of natural things. The culture of physical powers has been neglected, with a consequent loss of physical strength and of graceful bearing. Too much learning from books apart from the things themselves has led to a weakening of the faculty of observation, and to a loss of the aptitude for independent reasoning from observation and experience combined. Too little care for the spiritual capacity of the child has blunted the moral perception and retarded perfect intellectual development. Stunted or perverted ideas upon these cardinal principles, when they take the form of State laws, can only be administered at the loss of the community. From our deliberations here, where the widest freedom of utterance prevails, it is no small consolation to think that many will strike the one note which may harmonise many discords when insisting that the importance of developing the entire physical, intellectual, and spiritual capacities of children far transcends the minor matters which create divisions amongst us.

In this spirit we welcome those who, from other lands than our own, are assisting in the work of this section. We have a common aim, and we work in a common cause. As of old we look for "a city of truth," in which "there shall yet dwell old men and women, every man with his staff in his hand for very age." "And the streets of the city shall be full of boys and girls playing in the streets thereof." Among our "national manufactures" we think with Ruskin, that "that of souls of a good quality" will "at last turn out a quite leadingly lucrative one." Some words of his I leave with you to inspire the work of this section: "In some far away and yet undreamt of hour," he says, "I can even imagine that England may cast all thoughts of possessive wealth back to the barbaric nations among whom they first arose; and that while the sands of the Indus and adamant of Golconda may yet stiffen the housings of the charger, and flash from the turban of the slave, she, as a Christian mother, may at last attain to the virtues and treasures of a heathen one, and be able to lead forth her sons, saying, "These are my jewels."

The Scientific Observation and Study of Children in Schools, and the Classes into which they may be grouped.

BY

FRANCIS WARNER, M.D., F.R.C.P.

Modes of observing and studying their condition.—Assuming that it is desirable to know the condition of the children in a school, I am of

opinion that two independent reports should be made on schedule forms of all children considered by the reporters as presenting points worthy of notice (1) by the teachers, visitors, inspectors, &c., (2) a scientific report based upon viewing each child while standing still and also while performing some simple action. My province deals with the later method of report.

Children can best be seen in a large and well-lighted room; some of the London board schools have halls admirably adapted for the purpose. The children being drawn up in ranks, a standard at a time, or in groups of about 40, the observer can view each individual. It is convenient to fix the child's eyes while he is under observation by asking each in turn to look at an object held up (I use a shilling at the end of a pencil). The trained observer can read off the physiognomy of the individual features and their parts, the facial action and expression, the eye movements, the balance of the head and body, &c., as quickly as a printed line. The children are then requested to hold out their hands straight, the action being shown them momentarily, the action and balance are noted as a further indication of the condition of the nerve-system. Finally, the palate is inspected in each case. At each stage children presenting deviations from the normal are asked to wait with the teacher. Any cases not picked out may now be presented by the teacher; the selected cases are kept, the rest are dismissed to the class-room. Each of the selected cases is then reviewed individually, and the schedule form is filled in, conditions printed on the schedule are ticked if normal, and deviations therefrom are verbally described. The teachers' report of mental status is entered or filled in by them afterwards. In this method a fairly uniform standard of observation can be maintained. A tape measure for the head circumference is useful; occasionally some detailed inquiries may be made, or some brief mental examination conducted with the teacher may be desirable, but as a rule no questions were asked of the child. Time prevents me from giving details of my methods of observation, and the signs observed, but these have been published. This method works smoothly and uniformly, with a minimum of trouble to teachers and pupils. The teachers generally acknowledged that the dull children in the school had been picked out by observation.

The following remarks are based upon the observation of 50,027 children in schools which I undertook for a joint committee of the British Medical Association* and the Charity Organisation Society. Analysis and study of these observations suggest various classes or groups of children, we are concerned with their scientific definition, their relative numbers and distribution. A general analysis of the cases recorded is given in Table I. I hope later on to make detailed analysis and to trace the conditions of defect through the standards of school life. The local distribution of defects in development is dealt with in a paper presented in the Section of Demography.

---

* Towards the expenses of this inquiry grants have been made by the British Medical Association on the recommendation of their Scientific Grants Committee.

I. Table giving a general analysis of the cases seen.

No. of Schools seen.		No. of Children seen.	No. of Children noted.	Cases with Defect in Physical Development.	Cases presenting abnormal Nerve Signs.	Delicate, Pale, or Thin (Nutrition low).	Reported by Teachers as mentally dull.	Eye Cases: Squints, &c.; not ophthalmia.
Boarded Institutions. I.—XXXIV.	Boys -	8,246	1,994	1,324	1,333	291	801	287
	Girls -	5,403	962	671	557	156	441	159
Total - - -		13,649	2,956	1,995	1,890	447	1,242	446
Public Elementary Schools, &c. XXXV.—CVI.	Boys -	18,638	3,575	2,292	2,080	739	1,415	549
	Girls -	17,740	2,645	1,564	1,517	817	1,022	478
Total - - -		36,378	6,220	3,856	3,597	1,556	2,437	1,027
Totals I.—CVI.	Boys -	26,884	5,569	3,616	3,413	1,030	2,216	836
	Girls -	23,143	3,607	2,235	2,074	973	1,463	637
Total - - -		50,027	9,176	5,851	5,487	2,003	3,679	1,473

The classes or groups of children found in schools:—

(1.) *Children well made, with a nerve-system acting well, and average or bright at school work.* Of these there were among the 50,027 seen—Boys, 21,315; girls, 19,536; total, 40,851.

Such pupils are the average or normal, hence they do not appear further in our tables. It is seen here, as in most other cases, that the girls are better than the boys. In this work search was made for the abnormal and pathological, it would be interesting to re-examine these normal children to determine points of relative excellence, searching for those best developed in body and mental faculty; this could be done. Scholarships would be most advantageously given to the best made children.

(2.) *A group similar to the last, but slow at lessons* (reported dull by teachers), *i.e.*, children presenting no defects of development and no abnormal nerve-signs—seen Boys, 185; girls, 130; total, 315. It is important to differentiate such pupils from those with defective brain conditions, some children's bodies and brains are well developed and sound though presenting no present faculty for school lessons, as the teacher's evidence shows. The mental examination and history may, on the other hand, show grave defects in intellectual and moral faculty. Many of this group were "eye cases," some "cripples," several were presented by the

teachers, not having been noted by us. An analysis will be given in the full report.

(3.) *Cases presenting defects of development of the body of various kinds.* *See* Table I.

It is not intended to represent children as exceptional from an educational point of view, because some defect was present. Analysis of the various defects shows them to be of different importance. This subject has been dealt with in another paper,* demonstrating their relative co-relation with "mental dulness," "abnormal nerve signs," and "low nutrition" respectively.

(4.) *Cases presenting abnormal nerve signs.* *See* Table I.

Their significance varies in two directions, the one group is associated with low development, the other with delicacy and nervousness; they vary in different schools, and depend much upon methods of training. Information concerning classes 3, 4, has been presented to division of Demography.

Certain groups of children are best defined by the association of two or more physical conditions.

(5.) *Cases presenting defect in development and abnormal nerve signs*—Boys, 1,975; girls, 1,096; total, 3071. Such children are usually dull at work, and are often of low nutrition.

(3.) *Cases presenting defect in development and abnormal nerve signs also indications of low nutrition.* Boys, 412; girls, 381; total, 793.

(7.) *Eye cases.*—Obvious defects or disease were recorded, but no tests were applied to detect errors of vision or refraction. Ophthalmia was seen in certain day schools, but these cases were not recorded. *See* Table I.

(8.) *Deaf or partially deaf.* — Boys, 34; girls, 33; total, 67. Tests for hearing were not generally used, but when a child was found deaf it was noted.

(9.) *Cases crippled, deformed, or maimed.*—Boys, 157; girls, 84; total, 341. These children varied greatly, many are partially incapacitated for life, others only temporarily, some are mentally dull, others bright; they also differ greatly in physical health and strength.

(10.) *Epileptic.*—Boys, 32; girls, 23; total, 54. These cases were asked for in every school. Any case with a history of epilepsy or fits was recorded for what it was worth. It would appear that most epilectic children are frequently absent from school.

(11.) *Cases selected as feeble or exceptional in mental status.*—Boys, 124; girls, 110; total, 234. This group includes cases where the results of observation coincided with the teacher's opinion as to mental defect; it includes many imbeciles, obvious brain defects and disease, while less serious cases are

* Meeting of British Medical Association, July 1891.

also given. It is difficult to define what physical conditions alone indicate the child as unfit for average training, and I think an arbitrary attempt to do so must fail. Speaking generally, I would suggest that classes 5 and 6 need special attention in school, and should be known to the managers.

(12.) *Children delicate, pale, or thin (low nutrition).*—This condition shows a high degree of co-relation with defects in development and nerve-signs, also with mental dulness. No inquiries were made in day schools as to the feeding of the children.

The 2,003 children with low nutrition presented the following co-existing conditions.

TABLE II.

		Total Number of Cases of Low Nutrition.	Defects in Development.	Abnormal Nerve-signs.	Defects in Development and abnormal Nerve-signs.	Dull in School.
Boarded Institutions, I.—XXXIV.	Boys	291	199	194	119	97
	Girls	156	133	108	76	85
Total		447	332	302	195	182
Public Elementary Schools, &c. XXXV—CVI.	Boys	739	534	441	293	305
	Girls	817	593	490	305	310
Total		1,556	1,127	937	598	615
Totals	Boys	1,030	733	635	412	402
	Girls	973	726	598	381	395
Total		2,003	1,459	1,233	793	797

The study of children in school.—The general outcome of this work indicates the advisability of studying the pupils in two ways, (1) by mental tests, and (2) by physical examination or inspection. For the gain of direct scientific knowledge it is desirable to note all departures from the normal types. It appears to be a great gain to note, not only points in development and physiognomy, but also the nerve-signs indicated; those postures or balances and movements or actions which were noted as signs, were selected after much labour in observation, analysis, and comparison, and they seem well suited for the purpose in hand. They are readily recognised, and can easily be taught by means of casts, diagrams, and demonstration.

Physical examination by inspection is usfeul (1) as a means of selecting cases for special mental report, (2) as supporting or refuting

a report founded on mental tests only. The double mode of inquiry is specially necessary to detect certain cases; the mental test alone would leave out of view those nervous children who suffer much, but are usually bright at work and interested in it, and tend to pass the standards quickly; on the other hand, grave mental defects may occur with brains good for all other functions.

As a hospital physician, one sees many children, delicate, feeble-brained, children with small heads, nervous children with headaches, chorea, occasional fits, those partially deaf and blind, conditions without a tendency to a fatal termination, and not preventing a modified and adapted education—such children need provision for their training; without it they will probably tend to failure and incapacity in after life. They should be known and specially cared for.

DISCUSSION.

Dr. Shuttleworth (Lancaster) said he found himself unexpectedly called on to move a resolution which he wished had fallen into abler hands. He supposed that the honour had fallen to him because he had from the first been to some extent associated with Dr. Warner's work just reported, and in 1888 had moved the appointment of a Committee of the British Medical Association for a scientific examination into the condition of school children. This committee (which consisted only of medical men) had last year been reinforced by the Charity Organization Society taking up the subject, and appointing as members of its committee some distinguished educationalists and others who took a philanthropic interest in the subject. The result had been that additional energy had been infused into the inquiry, and now the result of an examination of 50,000 children was before the meeting. He might take the opportunity of saying that though a committee was responsible for the reports presented to the societies, to Dr. Warner properly belonged the credit of the work achieved. He would, without further preface, propose the *Resolution*, which was as follows :—

> "That according to returns prepared by Dr. Warner on the feeble-minded, epileptic, &c., it would appear that an appreciable number of children, though not imbecile, are more or less defectively developed in brain and body. That for their training and education special arrangements are necessary, and that in the absence of such arrangements there is great probability of grave mental and moral deterioration."

Taking these words as his text, he would make a few remarks upon some of the topics suggested. Speaking in a general way, it might be said that the peculiarities of brain development and condition noticed by Dr. Warner divided themselves into (1) cases in which nerve and brain power was defective, and (2) cases in which the action was irregular; in other words, the *dull* children and the *nervous, irritable* children. For these two classes different treatment was required, and it was to be hoped that in any arrangements made for the instruction of exceptional children their individual characters would be studied. And (he thought) a system of skilled medical inspection of schools should be instituted. As regards

number (so far as the inquiry had gone) no less than 1·5 per cent. of the children in elementary schools required specially-adapted instruction; and he rejoiced to hear that the actual experiment of special classes for exceptional children was shortly to be tried under the auspices of the London School Board. Such classes had already existed under the name of "auxiliary classes" in the public school systems of Germany and Norway, with encouraging results. In default of such special arrangements, exceptional children were either neglected or pushed beyond their powers, to the detriment of themselves and of their normal school companions. The neglected child grew up a permanent burden to the community, while the "wrong-brained" child, injudiciously treated, was apt to swell the criminal ranks. In conclusion, he ventured to say that the figures presented by Dr. Warner justified an appeal to the Government for an official inquiry, embracing the whole of the kingdom, as to the number and educational necessities of these exceptional children. Much good had been done by private effort, thanks to the industry of Dr. Warner and the support of the societies under the auspices of which his inquiries had been made; but the subject was one of imperial importance and demanded Government aid.

Mr. Graham Balfour seconded this motion, as representing the Charity Organization Society, pointing out the great advantages gained by the analysis of feeble-minded children suggested by Dr. Warner, by which any scientific education of such children was for the first time rendered possible. This paper seemed to mark a distinct advance in education in this country, but it was most important that the investigation should continue to be carried on.

Dr. Fletcher Beach (Dartford) rose to support the resolution. He had been called upon to do so, partly because he had been connected with Dr. Warner in the early part of the inquiry, and partly on account of his position as medical superintendent of the Darenth Asylum for Imbecile Children. Dr. Warner had furnished him with particulars of 85 out of 234 exceptional children whom he had observed in his inquiry. On going through them he observed a class with small heads, slow in answering questions and violent in temper, and another class with defective palates, defective in make and semi-imbecile. There was also a class of evil-minded, lying, sullen children, kleptomaniacs, and needing moral instruction. For these classes a school should be set aside. These should not be taught with the feeble-minded children, for whom he was glad to hear the London School Board was going to provide instruction. Then Dr. Warner had furnished him with a table showing the number who would require special care among 36,378 in public elementary schools. He found that there were 266 with defective development, abnormal nerve signs, low nutrition, and mental dulness, 48 epileptics, and 128 feeble-minded. Special instruction would no doubt improve these, for Dr. Shuttleworth informed him that in the schools for abnormal children which had been established in Norway one-fourth were passed on to ordinary schools, one-fourth passed confirmation, which was necessary before employment could be obtained, one-fourth were sent to schools for imbeciles, and one-fourth were sent home as incapable of improvement. Such a result was to be hoped for in England through the agency of school boards. There is no doubt that if the education of feeble-minded children be neglected they would, at a later age, lead criminal and immoral lives; this has already been found

by the National Vigilance Society. The education of epileptics should also be undertaken; it is a blot on civilization that they are at present neglected.

General Moberly observed that Dr. Warner's method of examining children in schools was very gentle and accurate, and was supported by teachers who were greatly interested in the investigation. He alluded to the proposals of the School Board for London to establish three schools experimentally. Very little was known of the system in England; but great encouragement was afforded by Dr. Shuttleworth's report as to success in other countries.

The physical development and the cleanliness of children must be cared for, in the hope of enabling them to return to the ordinary school, if not in the standards which, according to age, they should join, at least in *some* standard, though possibly they may learn little but such manual work as may facilitate their maintenance.

The medical officer of the board would have to examine each child before he or she is admitted into the special school, and will no doubt from time to time inquire into their condition to see what benefit has been obtained.

Dr. A. Jacobi (New York) said, there is one reason why those resolutions ought to be passed, which has not been dwelt upon enough by the last speaker. You want to advance the weak; so do I. But it is of greater importance to protect the strong and the intellectual. Whenever all classes of intellectual and unintellectual pupils are found together in the same school, both the method of teaching and the result of learning are but a low average. By having the weak and strong together you do not benefit the former, but you harm the latter by preventing them from reaching their possibilities.

Director Regierungsrath Dr. Moritz Gauster (Wien) sagte:—Ich fühle mich verpflichtet, für die geistesschwachen Kinder einzutreten und den Congress zu bitten, mit der Autorität der Wissenschaft und seines geistigen Ansehens für die Pflicht und Nothwendigkeit der öffentlichen Fürsorge für solche Kinder einzutreten.

Diese Fürsorge ist nicht nur ein Gebot der Menschlichkeit, sie ist auch im pekuniären Interesse der Gemeinwesen. Man wird zwar die Hoffnung der Vergangenheit aufgeben müssen, solche Kinder in nennenswerther Zahl zu heilen, aber bei einer Reihe gelingt es, sie zur Erwerbsfähigkeit unter Leitung oder selbst auch in beschränkt selbstständiger Art zu entwickeln.

Ich habe desswegen schon gestern dem verehrten Präsidium der Sektion einige Thesen in diesem Gegenstande angekündigt; da aber eine allgemeine alle defekten Kinder umfassende Resolution eben vorgelegt wurde, unterstütze ich wärmstens diese, will jedoch den Standpunkt, von dem die öffentliche Fürsorge für diese Unglücklichen ausgehen muss, in nachfolgenden Sätzen (Thesen) darlegen.

Ich bemerke, dass England für Unterbringung geistesschwacher Kinder sehr viel geleistet hat; ob für die in Folgendem bezeichnete Gruppe jener Kinder, die im Hause erzogen werden können, aber eigenen Schulunterrichtes bedürfen, ausgiebig vorgesorgt ist, weiss ich nicht. In Deutschland ist die Fürsorge durch Privatwohlthätigkeit und die der Gemeinwesen (Staat und Städte) zur Geltung gebracht; und in Oesterreich haben wir einige wenige Sonderschulen für Geistesschwache und für schwerere Kranke durch Privatwohlthätigkeit auch ein paar Anstalten.

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Doch muss diese Fürsorge umfassend zur Geltung kommen, und zwar von nachstehenden Grundsätzen aus:—

I. *Selbe theilen sich in drei Kategorieen:—*

a. Solche Kinder, welche geistesschwach sind, bei gewöhnlichem Schulunterrichte nicht oder nicht entsprechend weiter geistig entwickelt werden können, die andern Kinder im Unterrichte aufhalten, aber bei häuslicher Pflege weiter sich, wenn auch langsam, entwickeln können, wird ihnen entsprechender Unterricht zu Theil und die häusliche Pflege durch sachverständigem Rath geregelt wird.

Für solche Kinder sind eigene Schulen oder Schul-Abtheilungen zu errichten und sind diese und die Eltern durch die Schul- oder Amtsärzte über entsprechende Pflege und Behandlung zu belehren. Dies ist vorderhand nur in grösseren Gemeinden möglich; das Unterrichtsziel muss für jeden Jahrgang herabgesetzt werden; die Lehrer müssen im Unterrichte geistesschwacher Kinder praktisch geschult sein.

b. Solche Kinder, welche erheblich geistesgeschwächt sind, in häuslicher Pflege weder entsprechende Pflege noch Erziehung finden können, aber noch mehr minder geistig entwickelungsfähig sind.

Für solche Kinder sind eigene Anstalten nothwendig, in denen Erziehung und Pflege von sachverständiger Einsicht geleitet, und der Unterricht in Elementargegenständen, dann in Handfertigkeit und Gewerbe von fachlich vorgebildeten Lehrern durchgeführt wird. Solche Anstalten stehen am besten unter pädagogischen Leitern, wenn der ärztliche Einfluss bei Beurtheilung und Behandlung des Kindes je nach seinem individuellen Leiden gesichert ist.

c. Solche Kinder, welche geistesschwach in so hohem Grade sind, dass eine nennenswerthe Entwickelung in geistiger und nicht selten auch in körperlicher Hinsicht nicht möglich erscheint.

Für solche Kinder sind Asyle zur Pflege und zum äusserst vorsichtigen Versuche geistiger Hebung und Schulung nothwendig, in welchen Asylen sie meist entweder lebenslänglich gepflegt werden müssen, oder die später, wenn sie ganz erwachsen sind, der Familienpflege oder der öffentlichen Versorgung zu übergeben sind.

II. *Alle Schulen und Anstalten bedürfen eines sachverständigen ärztlichen Beirathes: die Asyle für entwickelungsfähige geistesschwache Kinder sind Kranken- und Erziehungsanstalten; jene für nicht oder nur wenig entwickelungsfähige sind Siechenanstalten. Auf beide hat die Gesundheitsverwaltung entsprechenden Einfluss zu nehmen.*

III. *Es ist Pflicht der öffentlichen Gemeinwesen, für Pflege und Erziehung solcher Kinder zu sorgen, theils unmittelbar durch Errichtung von Schulen und Anstalten, und Unterbringung der Armen in selben, theils mittelbar durch Ueberwachung der Fürsorge für solche Kinder.*

Dr. J. Langdon Down remarked that the value of Dr. Warner's inquiry depended entirely on the truthfulness on which his arguments are based. The basis is that there is a co-relation between physical conformation and mental power. It would be interesting to Dr. Warner to know that he had entered into a similar inquiry 30 years ago with regard to the physical conformation of idiots and imbeciles, and that he then wrote "The condition of the idiot is not simply one of mental alienation. It " frequently presents, also, grave physical deterioration; and this physical " alteration is as much a test of idiocy as is the low condition of mental " power." Subsequently, he had been accustomed to investigate the physical and mental condition of children who had but slightly enfeebled mental power, with results confirmatory of the results of Dr. Warner's

inquiries. It was very satisfactory to him to find so completely confirmed observations and sttements which he had made so many years ago. He dwelt on the close relation between feeble-mindedness and criminality. Many years ago he investigated carefully the physical and mental condition of the inhabitants of one of Her Majesty's prisons, and was much struck by the fact that a large number of so-called criminals were really feeble-minded people. While thanking Dr. Warner for his statistics, he was of opinion that the inquiry should be much more extensive and carried out over more varied fields.

Dr. Jno. Milson Rhodes said:—I have great pleasure in supporting the resolution that has been proposed by Dr. Shuttleworth. I believe that the inquiry should be extended to all England to ascertain the real number of feeble-minded children. Four years ago I had occasion to estimate the number of feeble-minded children in the north of England. I was therefore anxious to ascertain how far the last census returns could be depended upon, and for that purpose made personal inquiries among the people in my locality; the result was that I found that not above one in five is returned in the schedules, even if idiotic.

This is a question that will have to be faced, and it is not to the credit of England that we have allowed France to advance faster than ourselves. At the present time there is a Bill before the French Chambers to compel every department to provide two establishments, one for epileptic and one for non-epileptic idiots.

Three years ago the North-Western Poor Law Conference urged the claims of the feeble-minded on the State, and as one of the representatives of that Conference, I am quite sure that there will be no opposition to proper provision being made on the ground of expense by the poor-law guardians.

Mr. J. Peeke Richards (Hanwell Asylum) said that a more thorough examination of children ought to be made, and that it should be compulsory for every child on entering a school, whether board school, middle, or upper class school, to be examined by a medical officer, and for the result of that examination to be recorded. It would now be almost impossible to thoroughly examine all children now in schools, but legislation should in future make it compulsory for every child on entering a school to be examined physically, as is done now with recruits entering the army and navy. Slightly imbecile children of the lower classes, if properly taken in hand during school life, would tend to lessen considerably the number of admissions into the county lunatic asylums; this would not only be of considerable advantage to the welfare of the State in general, but to the ratepayers in particular.

Mr. Noble Smith thought that some practical deductions ought to be drawn from the valuable statistics placed before the meeting by Dr. Warner. The popular idea among the public was that it did not so much matter that the children should be deficient in at least physical development or deformity, because they would most probably if not certainly "grow out" of their deficiencies. This idea is not in accordance with medical experience. To elucidate this point Mr. Noble Smith had observed large numbers of artisans, and he had found out of batches of these adults going to or coming from work, that nearly as many possessed some crookedness of limb—especially of legs, as there were straight men. What was the result? Most of these men were unfitted to enter the army, and all of them were heavily handicapped for the

battle of life. He had no experience as to their degenerating into criminal classes, but they certainly often became discontented members of society. Among the classes who attend the more noisy mass meetings in Hyde Park a very large number of crooked legs may be observed. As a remedy for these defects, Mr. Noble Smith urged that our attention should be directed to improving the nutrition of children and to modifying their work, physical as well as mental. He thought that if the nutrition were better, we should hear less of mental over-pressure. We ought to approach the homes of the children and teach the mothers how to bring them up well and strongly.

The Resolution was then put by the **President** and carried unanimously.

Physical Indications of Injurious Schooling.

BY

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The object of this paper is to call attention to movement disorder in school children, to describe the early signs of such disorder, and to offer some suggestions to aid teachers and parents to discover it. The subject properly belongs to the hygiene of school life, and if it cannot be presented simply and without technicality to those whom it chiefly concerns, it is best let alone. It must be understood, therefore, that my remarks are addressed to teachers and not to doctors, and that upon controverted questions of pathology and treatment I shall say nothing.

Now, the physical indications of injurious schooling are of many degrees, not all of them obvious to unskilled observers. The early restlessness of the little child under school difficulty is very apt, as I shall show, to be overlooked or misunderstood. As a consequence, it presently grows into the disorder known as St. Vitus' Dance. But it is not of the fully developed disease that I would now speak, except to show how it comes and how it may be avoided. "Prevention is better than cure." The mental strain and consequent physical infirmity of school-pressure it is easy to recognise, and easy to relieve.

Take a very common case as the pattern to start from. A thin, pale girl of 11 is brought to hospital in consequence of continual restless movements of face and limbs. These are now of such severity that the child has to be fed. This is her history: The father is out of work and in hospital; the mother has charge of chambers, but, being rheumatic, cleaning out the place falls chiefly to the child; so does also running errands in the evening, the season being midwinter. These domestic cares require early rising and early work, while the night errands interfere with study and preparation for morning school.

The child is sometimes late therefore, and her lessons are ill learnt. For these faults she is often "kept in" and "slapped." Presently the mother notices that the girl is restless at night, calling out in her sleep, and rambling about school work. So matters go on from day to day; the house drudgery, the school punishment, and longer hours, and, finally, after an interval of errand-running, and the scanty meal of a child whose father is out of work, to bed and disturbing dreams until recalled (at 6 a.m. in winter) to the labours of another day. At length the limb movement and grimacing excite attention, and the mother in much alarm brings the child to a doctor.

Such and such-like is the common tale. During six months I find that 40 cases of St. Vitus' Dance have been admitted into the Hospital for Sick Children (November 1890—May 1891). Nine may be selected as the best examples of that affection when school-bred.* Their ages are between 8 and 12. *All but one are girls.* The exciting cause (in most instances long in operation) may be shortly defined as "school worry"; for instance, "bothered with lessons," "puzzling over sums" (a fruitful source of evil), "preparing for examination." In three cases the excitement and overwork attending examination is a conspicuous cause. Five of the nine children *were still kept at school after their restlessness had been noticed, and only removed when St. Vitus' Dance had developed so fully as to render them absolutely incapable of school work and sometimes even of speech.*

One example I will briefly quote to show the extreme sensitiveness of these children on the first access of movement disorder, a condition of nervous instability which demands notice no less than that of the limbs. This child had been working very hard for examination, and especially harassed by sums. She was in great apprehension about passing in arithmetic, and the overstrain had been so nicely timed that it culminated in obvious mismovement—actual dance of St. Vitus—just when the child was in for the first day's examination. Thus it happened that, in the course of writing, her restless left elbow by misadventure jogged the right arm of a boy sitting next her, thereby, to her great grief, spoiling his paper, and at the same time producing such mental emotion as greatly aggravated her own disorder.

I repeat that the St. Vitus' Dance (or Chorea) of the doctor is but the final stage or full development of a disorder which potentially has long existed unnoticed. From its beginning to its end this disorder is self-aggravated; it grows out of material of its own providing. A child discovers, to her own surprise, that her limbs and body have passed out of her control. Neither hands, nor feet, nor tongue are wholly obedient. And being a school child, and it being the way of the disorder to afflict the hands first and most, school work is made extra difficult. With all her pains, writing and summing are ill done; she reads indistinctly, writes badly, and is wanting in "deportment." And when punishment

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* An abstract of these cases will be found in the Appendix. In 1889, 55 choreic patients were admitted, 42 girls, 13 boys. In 1890, 51 patients were admitted, 34 girls, 17 boys. The out-patients were much more numerous.

follows, instead of sympathy, the child assents to it, in the knowledge, which her own small experience furnishes, that some penalty is the invariable consequence of faults of this kind, but not without a vague sense of the world's injustice. Yet the affliction and the dread of punishment will not (as she foresees) make the day's work better done, but worse.

There is a continual falling off in lessons and a continual recurrence of penalty, until, sooner or later (and sometimes it is very late), it occurs to someone, wiser than the rest, that the child is not perverse, but ill.

I do not forget that school lessons are ill done, not only from the hindrance of St. Vitus' Dance, but also, and still more, perhaps, from perversity, ill-temper, and distractions of many kinds. I would not have you continually suspecting St. Vitus' Dance. My object is to make you separate it, or rather its premonitions, as you most easily can, from other things that roughly imitate it.

Now, the way of St. Vitus' Dance, when school made (or, let me say, of that movement disorder which, if unheeded, culminates in that affection) is commonly this. At first the temper deteriorates, the child gets petulant, fretful, and capricious. With this will often concur headache and restless nights. And if these signs are not read aright, and school work is not relaxed, there arises presently a certain restlessness of the face and limbs. Even this may be easily overlooked, because children are by nature restless both in mind and body. But if you are on the watch, and warned already by the change of temper, or the headache, or the bad nights, you will soon perceive that this over-movement is not *merely* childish restlessness. You will find, for instance, that it applies particularly to one part, or to one limb; that while there is a general want of control, this is expressed most in one place, and *the commonest place* (except the face and tongue) *is the hand.*

This infirmity of the hand gives rise, of necessity, to manual faults, which at first almost invariably are taken for a wilful disobedience to school rules and commands. Anyone who reflects how much school work is hand work will feel pity for these poor children in the form that their visitation so often takes. It is easy to see how bad writing and untidy sums provoke scolding and slapping on the back; how these correctives in their turn increase infirmity, leading to worse writing and worse sums, until at length, by a self-acting process, the riot of the muscles become apparent, the child is put to bed, and its suffering ends.

The child's condition, I say, so long as the nature of it is unrecognised, is pitiable. Infirmity provokes punishment, and punishment aggravates infirmity. But I must add, speaking generally, that the child is not sorry for herself, nor resentful of injury. I suppose, indeed, that so long as the sums are being daily worked wrong, with daily slapping and "keeping in," while her schoolfellows, more observant than their teachers, ridicule her contortions and grimace, life must be regarded as something of a burden; but I know, as a fact, that once delivered from this tyranny, the St. Vitus' Dance child is, as a rule, a cheerful, amiable person, quite ready to see the ludicrous side of its own malady, very

sensible to kindness, and soon cured by it. Once in bed and at rest, the rational treatment of its infirmity supplies as many aids to recovery in the way of sufferance, praise, and encouragement, as there have been before hindrances in punishment, extra work, and the belief on the part of the child (as I have known) that she is really "possessed."

You are to observe, then, that this disorder which school anxieties provoke, which goes on for a length of time unnoticed, or else is put down to perversity, has in fact two distinct stages, or to speak more correctly, is looked at from two different points of view—the teacher's and the doctor's. At first, and at school, it is subjected to penal correction; and at last, when by these means it is fully developed, it is remitted to the doctor and given time for recovery. By a course of treatment which the most malevolent design could not better contrive to that end, the overtaxed school-child is converted into the helpless hospital patient. The case stands thus: when the disorder is first called into life, when it has weak hold and proper treatment founded on correct diagnosis (if I may use so large a word) would arrest its growth and nip it in the bud, it is supplied with the very food it wants for its development. At a later time, when fully grown, when no one can mistake it, and only time can cure it, it becomes a hospital "case," a fair text for comment on "modern school teaching."

Is there any remedy? Perhaps not. It is so difficult for any of us to enlarge by ever so little his accustomed range of observation. And, in my opinion, it would be better that the dance of St. Vitus should be cultivated in schools, as most certainly it now is, rather than that teachers should be in constant dread of it, allowing faults and relaxing discipline on its account, seeing it where it was not, magnifying both its frequency and its peril. St. Vitus' Dance is after all a comparatively small matter, and the terror it inspires is groundless. Yet no one will deny that we should be better without it.

In conclusion, therefore, I would put in dogmatic form the substance of what has now been said regarding the causes, the subjects, and the usual premonitions of St. Vitus' Dance, together with certain physical tests by means of which injurious schooling may be detected and disease averted:

1. Movement disorder is the product and the index of mental disturbance, and may be known by nice observation of the higher muscles (the face and hands) before it has reached the stage to which the term St. Vitus' Dance (or Chorea) properly applies.
2. When school children (and especially girls between seven and twelve, or thereabouts) alter in temper, work less well and less willingly than usual, get untidy or slovenly, in a word degenerate mentally and bodily, inquire of the mother as to the home conduct and temper. Ask particularly how the child sleeps, whether she complains of headache (or limb-ache), whether her food is sufficient.
3. Among the incidents of school-life apt to be injurious in the way we are considering there stand out prominently examinations,

moving into a higher class, sums (too difficult or ill-explained), punishment, and especially punishment or admonition before schoolfellows.

4. The best index of muscular infirmity tending to St. Vitus' Dance is *the hand.** Face mobility may be mere nervousness, the tongue may be tremulous by nature. The hand test is infallible, and it is thus applied. Bid the child hold up both hands open, with extended arms, the palms towards you. If that is done steadily, both hands upright and both alike, no finger or thumb quivering, no falling back of either hand, nothing to choose between the positions of the two, then the child has not, nor is it near (either before or after), St. Vitus' Dance. You may confirm this test by another. Let the child place its open hands upon yours, palm to palm. Looking then at the backs of the child's hands, observe whether fingers and thumbs (and especially the latter) repose naturally, without tremor and without restraint.

Appendix.

In 177 cases of St. Vitus' Dance, 43 were boys, 134 girls. This proportion, say one boy to three girls, will nearly express the sex incidence of the disorder, when all its causes are taken into consideration; but for school-made chorea, as the text shows, the proportion of girls is very much greater.

As regards age, the numbers run thus in the above cases:—

	Boys.	Girls.
Over 13 years	3	7
12 and 13 years	2	14
10 and 11 years	12	43
9 years	8	23
8 years or under	18	47
	43	134

It is clear, therefore, that the more sensitive sex furnishes the larger proportion by far of St. Vitus' Dance, while from 8 to 11 (the sensitive age) represents the period of greatest frequency.

St. Vitus' Dance is very rare under five years, the youngest patient I ever saw (if not the youngest on record) was one of my own, a girl aged 2 years and 11 months.† As proof of the commonness of St. Vitus' Dance it may be said that 100 children were admitted with it in about four years in my ward of 21 beds at the Hospital for Sick Children. The disorder is far less common out of London.

An analysis of 25 children under my own observation who exhibited movement disturbance due to some particular nervous overstrain will help to show in what degree school worry is directly concerned. In 16, the

* Photographs were shown, and also some children exhibiting the position of hand above described.

† Lancet, 1888, I., 109.

causes are definite sources of alarm for which school cannot be held responsible, *e.g.*, being "nearly run over," "chased" by men, women, boys, or dogs (several under such headings) "locked up in a cupboard," witnessing some alarming incident, quarrels, drunken violence, &c.

The remaining 9 of the 25 (or over a third) are directly connected with school; *e.g.*, overwork; punishment; preparation for examination, and so forth.

With a view to bringing home to those who are unfamiliar with the subject the precise manner in which school children are thus injured, together with the important fact (which some may be disposed to dispute) that children are often suffered to remain at school notwithstanding their movement infirmity, I will recall the circumstances of six months (November 1890 to May 1891) hospital experience in these respects.

During this time 40 examples of St. Vitus' Dance were admitted to the Hospital for Sick Children under my colleagues (Drs. Cheadle and Barlow) and myself. I quote the eight following, all but one are girls :—

1. *Florence P.*, age 11 years 9 months. (February 12 to March 2.) A second attack, (the first attributed to being "caned and knocked about at school") she has been worried over lessons, and observed to sleep badly. It was first noticed that she would drop things and was very restless both day and night. The restless nights preceded the movements by some weeks. On February 1st, the parents noticed in addition that the child had difficulty in writing, and *she was removed from school four days later.*

   This girl showed St. Vitus' Dance of moderate severity; quickly recovering on getting rest.

2. *George H.*, age 10 (the only boy on the list) (January 23 to March 26). As far back as November observed to be restless, *but not removed from school.* At Christmas much frightened by seeing a woman knocked down and her head cut open. Was much more restless the following day, screaming and crying out at night. *Was still kept at school* notwithstanding, and only last week was punished for inattention at lessons.

   This boy, though not very bad on admission, became violently agitated some time later after a dream, weeping and throwing himself about in paroxysms, quite beyond self-control, and fed with great difficulty. He was more than two months in hospital, but eventually made good recovery.

3. *Bridget M.*, aged 11 years and 7 months. 9th December, 1890 to 1st January, 1891. (Dr. Barlow's case.)

   For three months this child has been working for examination, and for two months has stayed in school until eight o'clock, doing home work as well. Lately has complained of headache. Worried herself especially about sums, fearing that she would not pass in arithmetic. The disorder increased to the degree of St. Vitus' Dance on the first day of the examination. It thus happened, that as the child sat writing her paper, the restless left elbow by misadventure jogged the writing hand of a boy sitting next her, and helped to spoil his work. She was much upset by this accident, and the movements increased. On admission, the limb movements were not considerable, but the child was unable to walk, and had difficulty in bringing out words. She recovered well.

4. *Gertrude MacS.*, aged 11. April 28th to May 21st. (Dr. Barlow's case.)

   This was the second attack, and had begun three weeks before admission after she had been in for examination. The disorderly movements were first noticed during writing; they afterwards became general.

5. *Rosa W.*, aged 9 years and 9 months. March 19th to April 23rd.

   General restlessness and difficulty of speech, not due to schooling in the same sense as the preceding, but to the

excitement produced by taking part in a school concert. (Dr. Barlow.)

6. *Kate P.*, aged 10 years and 2 months. February 27th to April 2nd.
   Has been working hard for June examination. "Hardly sleeps at all." The movements have been noticed a month, beginning in face, twitching of eyelids and mouth. *For the first week, however, she was kept at school.* On admission the movements were severe, and the girl could not feed herself. The case was of some endurance, but recovered perfectly.

7. *Edith C.*, aged 9 years and 5 months. November 7th to December 11th. (Dr. Cheadle's case.)
   Alleged cause "much worried with lessons at night, and finds difficulty in preparing them." Attention was first drawn to the child's unsteadiness in holding things a fortnight ago. Her walk was next observed to be irregular, and the corners of the mouth twitched. (The case is an example of a mode of the disorder, namely, stumbling gait, very apt to be overlooked.)

8. *Myra M.*, aged 8 years 7 months. April 22nd to May 26th. (Dr. Cheadle's case.)
   Has been working hard at school for six or eight months ("overworked," says the mother). Four months ago she woke up screaming, and for a time did not recognise her mother. But nothing further was noticed until six weeks ago, when limb movements and defects of hand grasp were noticed. *She was kept at school, notwithstanding, for three weeks longer*, during the latter part of which time her speech began to fail, and she became "stupid." A moderate general chorea; making good recovery.

9. *Amy A.*, aged 8 years 6 months. December 1st to January 3rd. (Dr. Cheadle's case.)
   Admitted for general movements of head, arms, and legs, with speech difficulty, the cause assigned being worry about school examination. (This patient died of an independent disease, the St. Vitus' Dance subsiding. The case is introduced to complete the list of those attributed directly to school causes within the period mentioned.)

The points to be specially noticed in the foregoing list are these:—

1. Only one of them is a boy, and with him a special alarm was a contributing cause.
2. There was school worry in all the cases except one (No. 5) where there was the injurious excitement of performance at a school concert.
3. In no less than five the children were kept at school after their limb disorder had been noticed.
4. In three of the severest cases the excitement of examination was a prominent feature of the provoking cause.

DISCUSSION.

Dr. Cheadle in supporting the views enunciated in Dr. Sturges's paper, pointed out that it was not so much hard work in itself which was effective in producing St. Vitus's dance, as the excitement, emotional disturbance, anxiety, and dread which resulted from inability to do school work, and the punishment and disgrace which accompanied it. This condition, as Dr. Sturges pointed out, was liable to go from bad to worse, as inability increased, and increased punishment followed. Dr. Cheadle related an example in which chorea followed great excitement, although previous hard work had not produced it. He could not agree with

Dr. Sturges as to the small importance of chorea; although in itself not generally a dangerous disorder, it was frequently associated with heart disease and rheumatism; and grave heart disease often began in the early stages of chorea. Therefore he thought it of great importance that the disease should be recognised and dealt with at once, before serious consequences arose, and Dr. Sturges had done good service in calling the attention of school managers and teachers to the first signs by which the approach of the disorder might be recognised.

Ringworm in Elementary Schools.

BY

MALCOLM MORRIS, F.R.C.S.E., Surgeon to the Skin Department, St. Mary's Hospital, London.

It is seldom that such an opportunity offers itself for the medical man, sanitarian, and educationist, to meet on a common platform as is offered by this special section of the Congress, and it is a matter for congratulation that the section is presided over by one whose knowledge of elementary education is probably unique. I have therefore availed myself of this occasion to express my views on a certain aspect of a disease of the skin, which, unfortunately, is extremely common in this country. I am unable to produce trustworthy statistics of the proportion of children attending elementary schools who suffer from ringworm, owing to the obvious difficulties of investigation; but I can, from personal experience derived from prolonged observation in the out-patient department in one of the large London general hospitals, and from confirmatory statements of colleagues at other hospitals, vouch that ringworm is far commoner in London than in any of the continental cities with which I am familiar. Although it is not my intention to dwell upon the medical side of the question at any length, it is, nevertheless, necessary to say a few words about the nature of the disease in order to elucidate the subject.

Microscopic examination, cultivation, and inoculation experiments, incontestably prove that all the phenomena of the disease, however varied in their clinical manifestations, are due to a fungus which invades the various layers of the epidermis. This fungus consists of mycelium, representing the mature elements, and spores—so to speak, the seeds — which latter, either by personal contact, or through the medium of the atmosphere, are capable of transplanting the disease on a suitable soil. The extreme contagiousness of the malady, which is familiar to everyone, is thus accounted for. Many of the perplexities which arise are due to the difficulties in recognising its earlier manifestations, which are too often regarded, both by parents and school authorities, as merely "scurfy heads." The same remark

applies very often to the disease in its later stage, when cure is supposed to have been effected. When ringworm attacks the body it is quickly and easily eradicated, as the fungus lies quite near the surface. It is, therefore, only with ringworm of the scalp that I am concerned in this paper. Here its obstinacy to treatment is due to the anatomical fact that the fungus is present, not upon the surface of the skin only, but also around the roots of the hairs in the deep hair-sacs or follicles. This fully accounts for the difficulty in effecting anything like a rapid recovery, even in most favourable circumstances; while among the poor, owing to indifference, lack of time, and skill, the disease is certain to last for many months, and not infrequently for years. In this respect it shows a marked contrast to all the other contagious skin diseases of children, as, for example, scald head, the itch, and other animal parasitic disorders, which yield quickly to suitable treatment. The question now arises, What is the present attitude of the authorities with regard to the disease? To this no satisfactory answer can be given, as no line of conduct is uniformly pursued.

On the one hand, the schoolmaster who is watchful and zealous as to the physical well-being of the children under his charge refuses to admit a child with ringworm to his school; whereas, on the other hand, he who is lax is apt to overlook or minimise the importance of the disease. In both cases, in my opinion, a grievous injustice is committed, for in the former case, a child, presumably in good health, is banished from school and all its advantages, both moral and educational, for a prolonged period, at a time of life when these are essential for its well-being. In the second case, the spread of the disease to other children is inevitable, and the community at large as well as the individual children must suffer. Of these alternatives, from a medical point of view, the former is the only logical course, though its effect must of necessity be a marked diminution in the general standard of national education and the reduction of the educational returns. It can hardly, I think, be questioned that it is the duty of the State to remedy this, and I would suggest the following practical recommendations as the only ones which have suggested themselves to my mind as offering any solution of the difficulty. It is clearly necessary, before attempting to cope with the disease, that the exact extent and frequency of its occurrence should be estimated. This can only be carried out by means of ***systematic inspection***, in order to accomplish which persons should be trained in each school by skilled medical men to make a weekly examination of every child's head. By this means alone trustworthy statistics would soon be obtained. My second recommendation is directed towards the eradication of the disease without interrupting the educational progress of the child. In the more crowded districts, or wherever feasible, special schools ought to be established in which both systematic treatment and instruction could be carried out. In less populous districts a single class-room might be isolated with a separate entrance. If such a system could be enforced, the advantages would be that the education returns would at once show a marked improvement, that the children

would no longer be deprived of their just privileges of education, and that ringworm would be materially diminished in this country, if not entirely eradicated.

DISCUSSION.

Dr. T. Calcott Fox observed that there are three facts that must be kept steadily in view in discussing this question. Firstly, there can be no doubt that ringworm is excessively common amongst the children in London; secondly, that the disease is propagated for the most part by contagion from head to head by actual contact, by interchange of caps, and so on; thirdly, that when once the growth of the fungus is firmly established, the disease is excessively obstinate, and may not be eradicated for months or even years. Conclusive evidence could easily be adduced to show that the aggregation of children in the elementary schools is a fruitful source of contagion. Whether ringworm has increased in frequency of late years is a problem which need not detain us to-day. Now it is obvious that on the one hand children are deprived of education for lengthened periods, and on the other hand many cleanly children are infected at the school, often through no fault of their own or of their parents, and this leads to unpopularity of the schools. This contraction of ringworm is an unfortunate incident of school-life, and all the more regrettable that the industrious and well-cared for children and the idle and neglected suffer indiscriminately. However painstaking and cleanly a mother may be in tending her children she can never be secure against the infection whilst they are attending school. I do not know what instruction the teachers may receive from the authorities, but my experience goes to show that there is an absence of any systematic and careful method of dealing with this disease in schools, and this irregularity leads to considerable hardship. Some teachers are certainly careful, and keep a watchful eye on the occurrence of ringworm, and at once exclude the victims or send them for examination to the hospitals. Many children are thus kept away from school for long periods, which depends on the zeal and energy of the mothers. But even in such schools which are comparatively free from ringworm, only conspicuous cases are recognised, and the earlier stages pass unnoticed for considerable periods. In other schools the teachers, with their hands full of other business, do not trouble themselves much about the matter.

What, then, is the best method of dealing with the problem? Experience of many of the educational establishments for the children of richer people shows that ringworm can be effectually kept away. But this necessitates, firstly, the assurance that no infected child enters into the establishment; and secondly, a rigorous and constant supervision of the children. The elementary schools of London could by such means be kept free from ringworm, but on the one hand there would be a great number of excluded children who must undergo a cure somewhere or other, and who meanwhile are deprived of education; and, on the other hand, to attain the object in view an expert staff would be required to examine all the children at the opening of the school after the holidays and at stated times afterwards. No doubt a medical staff would be the most satisfactory, but a staff of specially educated nurses would probably be fairly effective and less costly. The infected children could be sent to the most conveniently situated dispensaries and hospitals, where a

suitable course of treatment could be arranged, but as the rapidity of a cure depends so much on the energetic and faithful carrying out of the treatment, I would suggest as most desirable the supervision by a visiting trained nurse.

Meanwhile, what is to be done about the education of these infected children? They might either attend school and be taught in a separate room, which would be very inconvenient, and their attendance would be probably irregular. The only danger of infection would be on returning from school, but this difficulty could easily be overcome. Or they might be isolated by a residence in a separate establishment, where both treatment and education might be carried on. This alternative would be resisted probably by many parents, and would be costly.

The only other alternative, and much the simplest, is to educate the infected children with the others, but to carry out a partial isolation in the schoolrooms, and insist on suitable precautions being taken as to the mingling of the children, effective treatment, and the wearing of proper protection of the heads. I do not think that there would be much danger of infection under these conditions, and certainly as regards cost and efficiency of education, I think this plan the most practicable.

The course I would recommend for adoption is as follows:—I. That a systematic inspection of the school children should be carried out by a staff of medical men or by specially-trained nurses at the beginning of term and at stated intervals afterwards. II. That the infected children should be sent to a convenient hospital or dispensary for a course of treatment to be prescribed. The cure would be much expedited if nurses could assist and supervise those in charge of the treatment. III. That the children should still attend the schools, but be isolated as far as possible in the schoolrooms; that they should have their heads properly treated with germicide applications, and be covered with suitable caps to prevent any dissemination of the fungus; and that they should be discharged from school before the other children to prevent intermingling.

Epidemics in Schools.

BY

C. E. Shelly, M.A., M.D., Cantab., Consulting Medical Officer to Haileybury.

The connexion between schools and epidemic disease presents at least three important aspects. A school is peculiarly liable to the incidence and extension of such maladies; it presents special opportunities for their investigation; and epidemic illness is particularly important to both the school authorities and to the parents of the pupils, because of its interference with the health and with the education of the latter.

Schools are peculiarly susceptible to any epidemic influences, because they are closely aggregated populations of young people of whom an unusually large proportion (as compared with an equal number of the general population) is unshielded by the protection commonly afforded by a previous attack of the malady in question. The child at school is

not, as an individual, more susceptible than the same child at home, but while at home it exists as one unit of the general population, the susceptibility of which is greatly diluted by the intercalation of numerous other persons, of all ages, whose personal intimacy is much less close, and most of whom, being already protected by a previous attack, are not readily transformed into personal foci of infection. In the school itself, however, these conditions are reversed:—the susceptible material is concentrated and in relative excess, it is peculiarly liable to attack, and infection, howsoever originated, has a field specially favourable to its incidence and its extension.

The evolution of a specific type of disease from ancestral germs originally indifferent is not impossible, but the theory is as yet unproved. And, if its probability be admitted, we have no evidence to warrant us in applying it more to schools then to other collections of humanity, and least of all, if (as should always be the case) the school and the school-life be healthy. Other and reasonable explanations are abundantly to hand. And if the premises, the administration, and the daily economy of the school are in accordance with hygienic rules, it is quite justifiable, in the present state of our knowledge, to assert that whenever epidemic illness arises in a school it has always been imported. Indeed, the avenues of infection from without are so many and so varied that it is humanly impossible to safeguard every one of them.

From the nature of the case special facilities exist for this importation of disease; thus:—1. While at home, the child is brought into contact with the outer world of "all sorts and conditions" of men, women, and children, much more frequently and more intimately than is the case while it lives at school. Day scholars spend from four-fifths to three-fourths of their lives away from school, *i.e.*, frequently exposed to the risk of infection. And the pupil at a boarding school similarly spends at least three months out of every twelve in holidays and exeats.

2. But while at school—even as a boarder in an establishment constituting a relatively isolated community in a sparsely populated country district—there are still many points of connexion with the world outside: letters, parcels, clothing, "hampers"; the visits of tradespeople, and to shops, &c.; communication with servants; and, at the beginning of each term, an intimate association with the numerous other pupils—each, perhaps, a freshly arrived representative of another family elsewhere—with all its possibilities of contracting and transmitting infection; besides the possibility of inhaling or imbibing infected air or water in the neighbourhood of the school, for the best school cannot control its neighbours, or absolutely secure its pupils against the results of other folk's defective sanitation.

3. By far the most potent influence, however, so far as regards the commoner epidemic ailments at all events, is that dependent on the fact that so large a proportion of young school children is unprotected by any previous attack of the infectious diseases to which they are from time to time exposed during subsequent years. This is due, in the first place to the circumstance that, during the earlier years of life (infancy, early childhood), the individual's world is practically its home; it

mixes, in fact, less in society than it does when older; its points of common contact with the world at large are fewer; and it is subjected to greater personal care and supervision, the result of all these influences being a relatively effective protection from the risks of infection. It might be theoretically anticipated that this parental guardianship would be effective in proportion to the spread of hygienic knowledge amongst the population generally; and this theoretical assumption is corroborated by the results of somewhat extended observations. A large number of public and other boarding schools have furnished data on this head derived from an analysis of the facts which are recorded on the health certificate which is filled up by the parents or guardians of each pupil at the time of his entrance into the school. Subjoined is a Table (A), compiled from the statistics of one such school which has been selected, not because its results are the most striking, but because its carefully kept records extend back over a longer interval of time than do those of any other school with which I am acquainted.

TABLE A.

	I.	II.	III.
Statistics for	Sixteen years, 1863–79.	Eight years, 1879–87.	Twenty-four years, 1863–87.
Boys entered -	1,639	959	2,598
*Un*protected by a previous attack of—	1863–79.	1879–87.	1863–87.
Variola - -	1,624 or 99·08 %	955 or 99·5 %	2,579 or 99·2 %
Scarlatina -	1,183 or 72·18 „	718 or 74·86 „	1,901 or 73·57 „
Rubeola - -	382 or 23·3 „	283 or 29·5 „	665 or 25·79 „
Pertussis - -	448 or 27·3 „	285 or 29·7 „	733 or 28·02 „

These statistics cover the period 1863–87. If the 24 years be divided into three equal periods of eight years each, but little difference is observable between the first and second of these epochs. And the combined returns for the first sixteen years, 1863 to 1879, are therefore grouped together in column I. It will be at once noticed that this column contrasts with that for the last period of eight years, 1879 to 1887, in the decided increase of the *un*protected which is observable in the latter period. Had this been confined to such a disease as measles, it might have been explained on the supposition of the more general and more careful differentiation between this malady and Röthelu ("German measles"), which has obtained among both the medical profession and the public during recent years. But this increase of the unprotected obtains in the case of each of the maladies enumerated, and one is compelled to the conclusion that it is really due to an increasing education of the public in general hygiene;—an increasing education,—

because the returns from this and other large schools for the last four years (*i.e.*, since 1887) give evidence of a still further slight and continuous rise in the proportion of the unprotected. In other words, owing to more careful prophylaxis at home, and to the earlier recognition of, as well as to the prompter and more efficient isolation of "first cases,"—a larger (and an increasing) proportion of school children escape the incidence of epidemic illness during infancy and early childhood; *i.e.*, in the pre-school age, fewer contract these maladies than was formerly the case; and a greater number, therefore, enter school *un*protected.

To the medical officer of health and to the family doctor such a result may be a legitimate cause of satisfaction; but it does not lessen the responsibilities of the masters or of the medical officers of schools; and it cannot be regarded as tending to reduce the minimum of hospital accommodation required by a school. This progressive increase in the proportion of the unprotected at the beginning of school-life has obtruded itself upon my notice in several other ways in the course of investigating this and kindred questions. Thus, for example, in a large preparatory school (350) to which only *young* boys are admitted, the entrance age was, some years since, raised by 12 months; but the average ratio of the unprotected (from measles, for example) now stands practically at the same figure as formerly; and this, despite the fact that 12 months of age, more or less, makes a very notable difference in the returns for any yearly period between the ages of 9 and 12.

As might well be supposed, results such as those which have just been considered, are most notable in the higher strata of society,—amongst that section of the community which, in addition to natural intelligence and education, is in a position to command physical, moral, and sanitary advantages which are often beyond the reach of their more ignorant and less prosperous neighbours. The returns from schools of markedly different social status present, in this respect, most striking and instructive variations (*vide* also Table B, *post*). Moreover, it is almost self-evident, and is clearly shown by such returns as those given in Table B, that the child's liability to infection will tend to decrease with its advancing age, in proportion, in fact, as one epidemic malady after another attacks it and confers its own quantum of immunity.

4. Day schools present conditions even more favourable to the incidence of epidemic infection than does ordinary home-life; for, at such a school, each child has specially frequent opportunities of association with a number of other children, and each of these latter is exposed to specially frequent and diverse risks of infection. Hence, the day school is much more open to attack than is the boarding school. But comparing day and boarding schools for children *of the same age*, outbreaks of epidemic illness will, indeed, be more frequent in the former; but each epidemic is apt to be relatively less extensive; because, in the day school, owing to the very frequency of recurrent epidemics, a relatively smaller number of pupils are, at any given

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time, unprotected by a previous attack of the disease in question; conflagrations, as it were, occur with frequency, but they are comparatively limited in extent, because so much of the town is always already 'burnt out.'

5. For reasons similar to those considered above, the attendance of day-scholars at a boarding school greatly increases the number of avenues by which infection may be introduced. In other words, the frequency of epidemic outbreaks is increased, while their relative extent is thereby proportionately diminished.

6. The boarding school proper is the most isolated community of this class. By the exercise of due precautions, epidemics may for long be kept at bay. But during this period of freedom from such forms of illness, the proportion of unprotected pupils in the school is rising; and when, at last, infection is introduced—as, sooner or later, it is bound to be—there is a large amount of susceptible material open to its influence, and comparatively few barriers—as represented by already protected individuals—to delay or stay its progress. Epidemics, in short, are relatively infrequent, and consequently more extensive when they do occur.

In all respects, then, the more isolated and self-contained community—the boarding school—affords a typical field for the study of epidemics in schools; and it is to this class of school, and more particularly to boarding schools for boys, that the following remarks will especially apply.

The establishment and the spread of an epidemic are favoured mainly by two conditions—which are of practical importance because, given certain simple data which ought to be easily obtainable in the case of every boarding school, it is possible (for some diseases at all events) to calculate their value and to forecast their effect with a reasonable approximation to substantially accurate results.

These two conditions are :—

First.—The close aggregation of susceptible material, as represented by pupils who are *un*protected by a previous attack of the particular epidemic disease under consideration. The amount of susceptible material which is present in any given case is proportionate, mainly, to the *age* of the scholars; *i.e.*, practically, to the number who are or are not already protected by a previous attack. It is generally recognised that, for most of the commoner epidemic illness—measles, scarlatina, whooping-cough, Rötheln, mumps, and chicken-pox, for instance—one attack confers on the sufferer a very considerable degree of immunity against a recurrence of the same malady. It would not be unreasonable to surmise that *some* degree of immunity (more or less complete, and lasting for a longer or shorter time in different cases) is conferred by an attack of *any form of* infectious disease. The modern theories of the ætiology and pathology of this class of disease are in accord with such a surmise; and experience is also in its favour, for the apparent exceptions are only relatively exceptional. An attack of diphtheria, for example, does not protect the sufferer from a second or third experience of that disease to anything like the same extent that obtains in the case

of scarlatina or of measles. But a close examination of the two cases reveals the fact that the difference is one of time rather than of degree. For it is extremely rare to find an individual suffering from a second attack of diphtheria soon—or, indeed, for some time—after recovering from a first attack, even though throughout his illness, and subsequently, he remains exposed to precisely the same conditions as those which surrounded him for some time before its commencement. The modifying influence exerted upon the life-processes of the patient, may be, so far as is known, equally profound in the two cases; but this effect is usually much more lasting in the one disease than in the other. Reduced in health though he may be, the convalescent from a common cold, even, seldom contracts another immediately, in spite of his continuing to live on terms of the closest personal intimacy with the other suffering members of the household through which "the cold is running." On the other hand, we meet, every now and again, with individuals on whom a severe attack of scarlatina or of small-pox confers but a slight or short-lived protection against a repetition of their illness. It may be concluded, then, that *all* infectious and epidemic diseases are (for different periods) self-protecting; and we may regard an attack of any such disease as a natural form of prophylactic inoculation, affording a protection whose duration varies, between wide limits indeed, for the several maladies included in this large class.

For the present, however, we are concerned with those common maladies, a first attack of which is generally acknowledged to afford immunity, usually both absolute and prolonged, against a second. And, during the earlier years of life, this immunity stands in an inverse ratio to the *age* of the individual, because, with increasing age come increased opportunities of infection, with a resulting increase in the amount of protection thereby ultimately conferred.

Table B shows returns obtained from 13 large public and private schools. The schools are arranged in the order of the age of the boys at entrance; with the one exception—A, to be noted presently—they are all on a fairly equal footing as regards social status; and it will be observed that (with this exception), and so far as their statistics are obtainable and reliable, *age* constitutes a very fair basis for estimating the liability to infection for the several diseases mentioned. But, modifying the all-important factor of age, is to be noted the potent operation of social position. Contrast, for instance, A and B. The former is a school which, by the very terms of its existence, is largely recruited from families that have been visited by misfortune or broken up by disease and death. Children come to it, therefore, at the age of about nine, from conditions which have been, on the whole, *not* the most favourable to the safeguarding or the preservation of health. No infectious malady, perhaps, spreads more readily under such circumstances than *measles*, and the per-centage of those already attacked by that disease is 67. B is a private boarding school; its pupils all come from families occupying a good position in life, and in affluent circumstances. Every care is possible, and has, no doubt, been

TABLE B.

School.	Average Age at Entrance.	Per-centage of Boys who enter *un*protected by—					
		Scarlatina.	Rubeola.	Rötheln.	Mumps.	Pertussis.	Varicella
A	8–10	82·3	33·1	94·7	85·2	41·8	58·6
B	10½	80	65	80	60	30	40
C	11	70*a*	45*a*	70*a*	70*a*	33*a*	50*a*
D	11½	?	?	?	?	?	?
E	9–14	75·9	27·8	?	74	42·7	?
F	12	72·35	23·53	?	75·9	40	52·9
G	12	?	?	?	?	?	?
H	13	67	19	?	?	31	?
I	13	?	?	?	?	?	?
K	13	?	?	?	?	?	?
L	13½	80	24	?	?	32	?
M	13½	74–86	29·5	?	?	29·7	?
N	14½	75	16·9*b*	96·9	72·6	43·4	55·1
O	19	8	3	10	10	15	10

a, "Approximate" returns. *b*, Boys come chiefly from other large schools.

rendered to them individually at home from the very moment of their birth; and, moreover, they enter this establishment direct from home, without having gone through any preparatory school. Hence, although their average entrance age is at least a year and a half above that of A, and probably equal to that of E, only 35 out of every 100 have already had such a disease as measles.

The returns in this table are not so full or so complete as I could wish, or as such schools ought to be able to furnish if only the real value and importance of careful and systematic records of school illness were duly recognised. With respect to F, for instance, the relatively small number of those returned as "unprotected" by measles is striking; and one cannot help suspecting that some boys may have been said by their parents to have had measles, when what they had really suffered from was Rötheln; the figures (23·53 *per cent.*) are barely more than half those for whooping-cough (40 *per cent.*) instead of equalling them; and I find also, that in an epidemic of measles at this school, the number of pupils attacked would indicate a higher entrance rate of the unprotected (*vide post*, page 39). A similar suggestion applies to H; where, also, the average proportion attacked

in measles epidemics corresponds with that shown by schools in which the unprotected at entrance number 25 to 30 *per cent.* N shows a small per-centage in this column (16·9 *per cent.*); but its pupils "come chiefly from other large schools," and have, therefore, been already exposed to a double ordeal before they are drafted into this establishment, which occupies a special educational position. For O the entrance age is 19 years; its entrance statistics remind us how thoroughly a disease such as measles works during early adolescence; and show, too, what a large proportion of young adults have already suffered from scarlet fever—as individuals, at all events—though of boys *æt.* 15, less than 50 *per cent.* have had this disease.

The other cause which, in conjunction with the influence exerted by the average age of the pupils, favours the outbreak and spread of an epidemic, depends on—

2. The existence of a certain proportion between the number of unprotected—and, consequently, susceptible—pupils, and the *total* number of pupils in the school. This particular proportion may be termed "the explosive ratio," and its precise form varies with the particular epidemic disease which it represents. Both the risk and the probable extent of a conflagration in a building vary with the amount of its combustible contents, and with the extent to which this is diluted, by intimate admixture, with non-inflammable material. If a number of cartridges, some loaded and some empty, were jumbled together in a box, not stored in a magazine but exposed to the incidence of any casual spark, the probability of an explosion would have an intimate relation to the proportion existing between the number of loaded cartridges and that of the harmless empty ones that had been already fired. This simile fairly represents the conditions obtaining in the average school and its liability to outbreaks of epidemic disease. For, just as the empty cartridge cases, though not themselves explosible, might smoulder and thus lead to the ignition of their loaded fellows, so a child already protected by a previous attack of the disease, though unlikely to again fall ill with it himself, might convey its infection—by means of his person or his clothing—from one patient to some other still susceptible schoolfellow. And, moreover, just as it might be of service to know at any given time, the proportion existing between the loaded and the empty cartridges, in order to estimate the probability and the force of an explosion, so it is, in many cases, both possible and serviceable to be able to forecast the probable date and extent of inevitably recurrent epidemics, if we can but ascertain the ratio which exists between the number of the already protected and of the still susceptible pupils in a school.

In Table C an attempt has been made to show what relation exists between the age and unprotected ratio at entrance on the one hand, and the average total attacked in an epidemic of each of the diseases named, but most of the returns are too fragmentary or incomplete to furnish more than suggestions.

TABLE C.

School.	Average Entrance Age.	SCARLATINA. Per-centages.			RUBEOLA. Per-centages.			RÖTHELN. Per-centages.			MUMPS. Per-centages.			PERTUSSIS. Per-centages.			VARICELLA. Per-centages.			Total Boys in School.	These are Statistics for the last
		UE.	Mx.	Av.	UE.	Mx.	Av.	UE.	Mx.	Av.	UE.	Mx.	Av.	UE.	Mx.	Av.	UE.	Mx.	Av.		
A	8-10	82·3	12·5	2·63	33·1	23·75	22·1	94·7	28·0	21·87	85·2	42·6	29·03	41·8	13·12	3·5	58·6	13·3	6·55	340	10 years.
B	10½	80*a*	1·6		65	25	21·6	80	54		60	48		30	?	?	40	36		60	12 years.
C	11	70*a*	1·6	1·08	45*a*	27·6	25·5	70*a*	?	?	70*a*	48·6		33*a*	?	?	50*a*	?	?	182	9 years.
D	11½	?	4·17	3·58	?	11·06		?	0	0	?	0	0	?	0	0	?	0	0	768	17 years.
E	9-14	75·9	0	0	27·8	22·5		?	0	0	74	0	0	42·7	0	0	?	0	0	400	5 years.
F	12	72·35	0	0	23·53	20		?	?	?	75·9	?	?	40	?	?	52·9	?	?	200	?
G	12	?	7·1*		?	20*		?	30*		?	30*		?	5*		?	3·3*		300	?
H	13	67	0·017		19	14·9	14·78	?	25·26		?	12·45	10·69	31	?	?	?	1·05	0·52	570	6 years.
I	13	?	1·0	0·4	?	14·4		?	40·4	26·7	?	?	?	?	0·6		?	0·4	0·3	500	3 years.
K	13	?	2		?	"about 10"		?	"about 10"		?	2·5		?	?	?	?	2·5		400	?
L	13½	80	4·7	1·7	24	24·7	14·5		?	?	?	?	?	32	?	?	?	?	?	400	15 years.
M	13½	74·86	2·0	1·2	29·5	15·7	13·8	?	22·6	20·1	?	18·2	8·2	29·7	1·0		?	3·8	1·4	500	12 years.
N	14½	75	0	0	16·9	7·4		96·9	9·09		72·6	20·9	20·8	43·4	0	0	55·1	28·5		118	5 years.
O	19	8	3·1		3	5·6		10	4·9		10	5·6		15	0	0	10	0	0	124	5 years.

Under the head of each disease is given (1) the *Per-centage* of boys who are, at entrance, *un*protected by a previous attack, = UE.; (2) the *Maximum* per-centage (calculated on the total number of boys in the school at the time) attacked in an epidemic = Mx.; (3) the *Average* per-centage attacked in "full-scope" epidemics = Av.

a, "Approximate." * "These figures from memory."

Table D is of more value because it represents the carefully kept records of epidemics in a large school as observed throughout a quarter of a century. Boys enter this school at about 13 years of age, at which time nearly 75 per cent. are unprotected by any previous attack of scarlatina, and about 30 per cent. have had neither measles nor whooping cough.

TABLE D.—EPIDEMICS.

SCARLATINA.

Number attacked	1	1	5	9	5	3	23[1]	1	1	15[2]	7	2
Number in school	300	300	300	326	362	359	357	353	352	356	354	495
Percentage -	0·3	0·3	1·6	2·7	1·3	0·83	6·0	0·28	0·28	4·3	2·0	0·4
Rötheln—Percentages	2·5	0·26	0·82	3·1	4·10	5·74	3·08	22·6	17·6			
Mumps „	1·6	4·1	9·8	2·24	6·26	3·6	4·6	18·2[3]	2·8	4·8		
Pertussis „	From 1·3 to 3 per cent. of total boys in school.											
Varicella „	0·82	1·6	1·36	2·1	1·25	3·1	3·08	0·52	0·6	3·8	1·0	

RUBEOLA.

	Jy. 1867.	Jy. 1868.	April 1870.	April 1871.	Dec. 1 878.	Jy. 1875.	Jy. 1881.	Jy. 1883.	Jy. 1886.
Number attacked	52	25	33	14	35	47	58	71	77
Number in school	316	358	358	359	363	359	498	496	496
Proportion -	$\frac{1}{6}$	$\frac{1}{14}$	$\frac{1}{10}$	$\frac{1}{25}$	$\frac{1}{10}$	$\frac{1}{7}$	$\frac{1}{8}$	$\frac{1}{7}$	$\frac{1}{6}$
Percentage -	16·4	7·0	9·2	3·9	9·3	13·1	11·7	14·3	15·7

[1] Special local cause active at the time. [2] Ambulant "Desquamator."
[3] Began during the Measles Epidemic of 1883, and ran concurrently with it.

Now *measles* is essentially the type of an epidemic disease which, being infectious in its pre-eruptive stage, cannot be stamped out by the isolation of first cases; it therefore furnishes, as a rule, extensive epidemics which run a generally uniform course, and consequently afford special opportunities for comparison and study. I have, for this reason, accorded a special sub-table to Rubeola, and a study of its figures shows that (omitting the outbreaks which, beginning late in the term, for instance, did not have opportunities of attaining their full dimensions) we get a total of 338 cases amongst 2,523 boys—*i.e.*, 1 in every 7·4 boys, or 13·4 *per cent.* for the whole 24 years. The first period of 16 years (when the unprotected entry was 23·3 *per cent.*) gives 132 cases amongst 1,033 boys—*i.e.*, 1 in 7·8, or 12·8 *per cent.* The last period of eight years (when the unprotected entry was 29·5 *per cent.*) gives 206 cases amongst 1,490 boys—*i.e.*, 1 in 7·2, or 13·8 *per cent.* This result conforms to that indicated in Table C, which also shows that when the *maximum* age of entrance into a school does not exceed 12 years, fully 25 *per cent.*, or one-fourth of the whole school, will probably be attacked in any "full scope" epidemic of measles.

Investigation from another standpoint indicates that measles epidemics are prone to occur whenever the susceptible material has so accumulated as to represent about one-third of the total number of pupils in the school at the time, or $\frac{T}{3}$. We have, then, two "empirical laws":

I. "*An epidemic of measles may be looked for whenever the total "number of unprotected boys equals one-third of the total number in "the school*"—(*i.e.*, when the susceptible material is so concentrated as to form a readily explosible mass).

II. "*In such an epidemic* (*if it have full scope, by beginning, "for example, early in a term*) *three-sevenths of the nominally 'unprotected'* (i.e.,* $\frac{3}{7}$ *of* $\frac{1}{3} = \frac{1}{7}$ *of the total boys*) *may be expected "to be attacked.*"

These two laws may be thus combined:—*Let* T *stand for the total number of boys in a large school, the entrance age to which is about thirteen years. When* $\frac{T}{3}$ *are nominally unprotected by a previous attack of measles, an outbreak of measles may be expected to occur; and in this outbreak* $\frac{3}{7}$ of $\frac{T}{3}$ $\left(= \frac{T}{7}\right)$ *will be attacked.*"

[I may add that, as regards Rötheln, three-fifths of U T will probably be attacked—U being the co-efficient of *un*protection, *i.e.*, $\frac{1}{3}$, $\frac{1}{2}$, &c., as the case may be: perhaps for rötheln U may generally be taken $= \frac{1}{3}$, and then $\frac{3}{5}$ of $\frac{T}{3} = \frac{T}{5}$ or 20 *per cent.* = the number likely to be attacked in a full-scope epidemic of German measles.]

As a corollary it may be stated that—

III. "If the epidemic prove much less extensive than it should have been by Law II. (owing, *e.g.*, to its beginning about the middle or towards the end of a term), the next epidemic may be looked for after less than the usual interval," *i.e.*, as soon as the "explosive ratio" $\left(\frac{T}{3}\right)$ is again reached. I believe that this outbreak of an epidemic whenever the susceptible material reaches a certain proportion of the whole mass explains the commonly admitted tendency to the recurrence of the disease in schools at pretty regular intervals of time.

These empirical formulæ have been deduced from a study of the statistics furnished by numerous schools. The records furnished by one school in particular happen to be the most complete and extensive, though not, I think, more conclusive than the others; and I therefore reproduce a partial summary of them here. In a school of 500 boys,

* The "nominally unprotected" are those who appear to be unprotected according to the returns (entrance-certificates, &c.) commonly accessible.

who enter *æt.* 13 *circ.*, and leave *æt.* 18 *circ.*, the period of school life averages five years. About 100 boys enter annually, and of these, at least 25 per cent. are unprotected from measles; 100 boys leave every year, and of these, at least 5 per cent. will still be unprotected. So that in round numbers, 20 boys are added every year to the rubeola-unprotected population of the school. [Probably, *vide* Table I., it would now be more accurate to take a higher net percentage of unprotected; but the difference may be allowed to stand as a set-off against those few individuals who (while not recorded as such) become protected by attacks contracted and sustained during the holidays.]

Looking at the figures given under measles in Table D, RUBEOLA, it is seen that the chief epidemics occurred at intervals of about two to three years. When an interval of about 12 months only intervenes between successive outbreaks, the second epidemic is apt to assume comparatively small dimensions; *e.g.*, 52 cases $\left(\frac{T}{6}\right)$ in 1867, followed by only 25 $\left(\frac{T}{14}\right)$ in 1868; 33 cases in 1870, 14 in 1871. When the interval extends to about three years, the normal proportion $\left(\frac{T}{7}\text{, or 14 per cent.}\right)$ tends to be assumed. This comes out more clearly on further analysis. In 1867, 105 boys, or about $\frac{T}{3}$, were *un*protected (U) by a previous attack of measles; 52 $\left(=\frac{3}{7}\text{ of U}\right)$ are protected by the epidemic of that year, leaving 53 still unprotected. Add 16 for unprotected entries in 1868, and we have a total of 69 U, of whom 25 become protected by an imperfect epidemic, leaving 44 U. Add another 16 for 1869, and 20 for (the larger entry of) 1870, and the total of 80 U is attained. An epidemic now protects 33 $\left(=\frac{3}{7}\text{ of U}\right)$, leaving a balance of 47 U. Add 20 for 1871, and we have 67 U; a partial outbreak protects 14, leaving a balance of 53 U. Add 40 more for the two years 1872 and 1873, and U = 93. An epidemic protects $\frac{3}{7}$ of U (or 35), and leaves 58 U. To these would be added about 20 in 1874, and another 20 (*i.e.*, 20 per cent. of the entries for the year) in 1875, making a total of 98 unprotected boys, which equals $\frac{T}{3 \cdot 6}$. The epidemic occurs, protecting 47, or, as usual, about $\frac{3}{7}$ of U, and leaving 52 U. By the end of 1881 there were about 162 unprotected in the school of 500 boys $\left(\text{equal to nearly } \frac{T}{3}\right)$; the epidemic protects 58 $\left(\text{not quite } \frac{3}{7} \text{ of U, or } \frac{1}{7} \text{ of T}\right)$, leaving 104 U. Add 50 more unprotected for 1882 and 1883, and the total becomes 154 U, or nearly the critical $\frac{T}{3}$; and another epidemic protects 71 $\left(\text{a little over } \frac{3}{7} \text{ of U}\right)$,

leaving 83 U. Add 25 more for each of the next three years, 1884–85–86, and the total reaches 158 $\left(\text{or } \frac{T}{3}\right)$, when another epidemic protects 77 $\left(\text{rather more than } \frac{3}{7} \text{ of U}\right)$, and leaves 81 unprotected. During 1887–88–89 and 1890 (with a population and entrance-rate both temporarily lowered) a further addition of 60 raised the number of unprotected to 141 out of the total 398 boys then resident $\left(= \text{nearly } \frac{T}{2{\cdot}5}\right)$ when another epidemic occurred, attacking 60 boys, $= \frac{3}{7}$ of U, or 15·07 *per cent.* $\left(\frac{1}{6{\cdot}6}\right)$ of T.

Certain checks exist to the introduction of infection into a school, and some of these are of the greatest value and importance. These checks comprise :—

1. An efficient system of "Health Certificates."* Not only should the entrance certificate brought by each pupil to a school clearly indicate the several diseases from which he has already suffered, and his then existing state of health; but no pupil should be permitted to return to school after the holidays without bringing with him a certificate—signed by the parent or guardian—to the effect that he has not, for some specified period (say, three weeks at least) been exposed to infection. In the event of any pupil falling ill, or being exposed to infection during the holidays, notice should be at once given by the parents to the school authorities (*i.e.*, to the master or to the medical officer), who will, in reply, inform the parents of the course which they are to adopt, and at the same time furnish them with a form, to be signed by the parent and guardian and forwarded to the school the day before the pupil returns, to the effect that the several regulations laid down by the school have all been complied with. No pupil should ever be allowed to re-enter the school directly after such illness or exposure to infection; the pupil must proceed direct to the sanatorium (or infirmary) with his clothes, &c., where he (as well as the clothing) will be properly disinfected and examined by the medical officer before being passed into the school. "Disinfection at home" cannot be relied on, and the invariable and impartial application of such a rule is essential to any effective system of hygienic precaution against the introduction of disease. It has been already shown that an increase in the average age of pupils markedly lessens the liability to epidemic outbreaks.

Even when an epidemic has been started, there are certain regulations and conditions, the wise application of which can do much to impede its extension. First stands the immediate notification to the medical officer of every case of illness as it occurs: by this means some

* Note.—Typical certificate forms for use in these and similar cases are given in the "*Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools*," issued by the Medical Officers of Schools Association. Third and revised edition. J. & A. Churchill, London.

diseases (*e.g.*, scarlatina, chicken-pox) may be actually prevented from extending any further; and in the case of others much less possible to "stamp out" (measles, *e.g.*), the rate of progress can be much delayed by the same action which secures immediate attention to individual cases as they are recognised. But cases of illness must not only be immediately and effectively isolated from the presumably healthy for so long as they remain infectious; patients, and their clothing, &c., must be properly disinfected before they are permitted to re-enter the school.

The attendance of day scholars acts, as has been seen, by affording opportunities for the more frequent introduction of infection, and for the consequent protection thus secured to those pupils who, in successive small batches, contract the diseases thus imported; the supply of susceptible material never, therefore, reaches a large proportion of the whole number of pupils; and its dilution by those already protected effects much in checking the progress of an epidemic disease already introduced.

The existence of separate masters' "houses" is also effective to this end; although the whole school constitutes a general community affording numerous opportunities for and channels of personal intercourse between its members, these "houses" are, to some extent, separate sub-communities; and their existence is found to have an appreciable effect in at least delaying the progress of an epidemic through the large schools in which the system obtains.

Most important of all, probably, in the case of large schools at all events, is the subdivision into two distinct establishments; of which one—the junior school—contains pupils *up to* the age of about 12 years; the older pupils being drafted into the senior school. Most children tend to get through the list of ordinary infectious ailments by the age of about 15, with the single exception of scarlatina, *vide* Table B; but if associated during the earlier years of life with a large number of other young children, the opportunities for securing protection are greatly increased, and such a child will generally have completed his "course of epidemic inoculation" before the age of 13 at all events. Under such circumstances the senior school will comprise pupils who are practically not susceptible to the ordinary epidemics of school life, with the exception of scarlatina, and as this is a disease whose outbreaks are, or should be, almost always capable of immediate check and rigid limitation in a school, it follows that the much more serious and important work of the senior pupils is safeguarded against the disturbing interruptions of recurrent epidemics.

A study of the statistics at my command indicates—in the case of large schools with an entrance age of about 13 years, at all events—some interesting facts regarding the mutual relationship between different epidemic diseases, and the influence which they exert on one another when prevailing concurrently in a school.

Reference to the entrance statistics given in Table A, shows a curious equality between the number of boys already protected by measles and by whooping cough respectively; and this accordance is more marked for the later period, 1879–1887, during which time we

may assume that the differentiation between measles on the one hand, and Rötheln and epidemic Roseola on the other, had become more general and precise. This near equality of the returns for pertussis and for measles is, however, striking for all periods; it is, moreover, very equably maintained, not only throughout each of the 24 years noted in this table, but for each term during and subsequent to that period—as is demonstrated in the subjoined table, which embodies the returns made in a series of terms taken quite at haphazard.

TABLE D.

Terminal Returns for Measles and Whooping Cough.

Total Boys entered.	Total already protected by Measles.	Total already protected by Whooping Cough.
51	40	36
37	29	23
43	30	32
31	25	20
10	9	10
35	29	29
23	19	16
25	20	13
30	23	22
62	50	46
37	25	25

I am inclined to think, therefore, that for school boys of this age (13—14 *circ.*) the entrance statistics of the one disease may serve as a useful check against those of the other; although epidemics of pertussis are relatively rare, and of but moderate dimensions when they do occur, amongst adolescents from about the age of puberty upwards.

Rötheln epidemics often precede or follow those of measles, but, as the two are *very* rarely coincident, adequate hospital accommodation provided for the latter disease will also serve for Rötheln. For, if Rötheln epidemics are apt to be more extensive than are those of measles, the period of convalescence is shorter, in the proportion of about two to three; so that, during an epidemic, beds are so much the sooner cleared and available for fresh Rötheln patients. Rötheln sometimes, but less commonly, follows in the wake of scarlatina; and during the progress of an epidemic it will sometimes be observed that Rötheln develops morphologically in two divergent directions; so that some cases come, on the one hand, more and more closely to resemble scarlatina, and, on the other, to approximate to ordinary measles. But there is also another malady, still frequently confounded with German measles, under a common title of "Epidemic Roseola," which is apt closely to resemble mild cases of measles; it is common about summer time, is highly infectious, and is usually a very trivial complaint, though a not infrequent cause of trouble to the school and of alarm to parents.

We still sometimes hear of a close connexion between outbreaks of scarlatina and of diphtheria; I believe the alleged relationship, so far as

it exists, to be accidental; greater precision in diagnosis has always led to more exact discrimination, and probably accounts, in no small degree, for the greater recorded prevalence of diphtheria during recent years.

Mumps is responsible for many and extensive epidemics before puberty. After the age of 14, or thereabouts, its incidence is much less regular, and—as a disease by itself—its epidemics are not often very large. But it would appear that if mumps occur coincidently with measles, and so early in a school term as to allow the disease "full scope," the number attacked may equal, or even exceed, that affected with measles; and a similar observation applies, though possibly with less force, to coincident epidemics of mumps and Rötheln. The fact that exhalation from the air passages is a mode of infection common to all three maladies may throw some light on this point.

Sir George Paget long since pointed out that a convalescent from typhoid fever is almost always susceptible to vaccination; that, in fact, the previously protective influence of this latter has been destroyed or neutralised by the more recent disease. This fact, seeing that youth is *par excellence* the period for enteric fever, may serve as an additional argument in favour of always performing re-vaccination at, or before, the termination of school life; for, during adolescence—the period of active tissue-change—the immunity conferred, at least temporarily, by the primary vaccination of infancy is apt to become exhausted in most cases; and at least 70 per cent. of the re-vaccinations performed at or towards the close of school life have proved, in my experience, successful. The returns given under the head of Variola, in Table A, showing a decrease of 0·5 per cent. during recent years, is another proof of the increasing improvement in national health and health-seeking already alluded to.

As regards the hospital accommodation which should be provided for adequately dealing with outbreaks of epidemic illness in a large boarding school such as I have here been mainly considering—one, that is, containing 300 boys or more, the age at entrance averaging 13 to 13½ years, and that of leaving school 18 years—and allowing for two or more diseases being epidemic at the same time, we may conclude as follows: Beds should be provided to the extent of 2 *per cent.* of the *total* number of pupils, for dealing with *scarlatina*; 5 per cent. for mumps (and whooping cough); 2 *per cent.* for chicken pox—which (though readily taken by young children) does not give rise to extensive epidemics in schools of higher age, because, like scarlatina, early cases are easily recognised, and can, therefore, be promptly isolated before the malady has attained its most infectious stage; 1 *per cent.*, say, for such a disease as diphtheria; and 10 *per cent.* for measles (and Rötheln). It is often contended that it is both useless and unnecessary to provide special hospital accommodation for the two maladies last named. Yet each commonly induces a certain amount of physical debility, and is apt to predispose to other maladies; they seriously dislocate the work of the school; and each represents, for the patients attacked, a loss of educational opportunities at a time of life when they are most valuable.

Thus, for example, an epidemic of measles affecting 70 boys involves, to them, a direct loss of at least 2,000 working days, and probably, by interference with the class work, not much less to their fellows. Baffling as measles is, the prompt and thorough isolation of each case as it arises at least limits the activity of so many foci of infection, and must, therefore, have an influence in curtailing the epidemic; moreover, it ensures to each patient that early and efficient treatment and continuous observation which constitute the best safeguard against the development of dangerous complications and troublesome sequelæ. Is it, then, anything short of criminal to do less than attempt, in every possible way, to separate the obviously infectious from the presumably healthy, and thus to secure for each class of those under our care the best advantages that we can command for them?

Under the average existing conditions, and seeing that the ratio of the unprotected for all diseases appears to be steadily and continuously rising, it would seem that hospital accommodation for infectious disease to the extent of 20 *per cent.* of the total number of pupils, is not excessive for the needs of a large boarding school prepared to do its duty to itself and to its pupils.

It is not requisite that the whole of this accommodation should be provided in a building constructed in the same permanent and substantial manner throughout; from one-half to one-third of the amount named may fairly be of a semi-temporary character, as *e.g.*, a semi-detached *annexe* built of wood or of corrugated iron with double walls; and this, during lesser outbreaks, would serve admirably as a play-room for convalescents. Further, the existence of what is known as the "house-system"* in such a school tends at least to *delay* the progress of an epidemic, and may be considered to lessen the amonut of sanatorium accommodation required by a number of beds equal to from 3 to 4 per cent. of the total pupils. Again, in the case of the attendance of a considerable proportion of day scholars, it may be taken that the amount of hospital accommodation required will be less than that needed if no day boys attended, by a number of beds equal to at least 2 per cent. of the total number of boarders in the school. Finally, whenever a large school is subdivided into a junior and a senior establishment, the latter is thereby greatly protected against the incidence of epidemic disease; and it is obvious that, if the senior and junior schools be conducted as distinct establishments, there will be a very great disproportion as regards the amount of sanatorium accommodation severally needed in the two cases. Separate accommodation should also be provided for servants: but, even in large schools, a total of two or three beds will suffice under this head. And it is essential to good results that the infectious hospital, or "sanatorium" buildings should include an efficient disinfecting apparatus (large enough to deal with a full-size mattress); and a laundry, in which infected clothing can be thoroughly dealt with quite apart from the ordinary washing of the school.

* The several "houses" being distinct and isolated buildings.

It will not have escaped observation that the statistics of school illness at present available in this country are but fragmentary and incomplete. This is greatly to be regretted, for I am sure both that a mine of information of the most valuable kind lies here, only waiting to be worked, and that the elaboration and publication of such information can only redound ultimately to the great advantage of the schools themselves. The matter is at present engaging the attention of the Medical Officers of Schools Association, which hopes soon to be in a position to provide every medical officer of a school with simple schedule forms, on which the more important facts in connexion with the illnesses occurring amongst the pupils may be conveniently recorded. It cannot be doubted that the collation and study of such reports, extending over a series of years, and dealing with thousands of children, will prove of immense value, if only from the one point of view of the study of epidemic illness amongst the young. And here it will not be out of place for me to acknowledge my own indebtedness to the governing body of the school with which I am especially connected. Some years since, when I was working at the school statistics of entrance and illness to see what they might teach, I asked whether any objection would be raised to my making public the facts at my command, should a suitable opportunity present itself for doing so. In reply, the council decided unanimously and without demur that, as the medical officer of the school, I was at liberty to make any use, public or private, of all such facts connected with the sickness, health, and other details of the school as came within my official purview—provided only that their publication seemed calculated for the benefit of the school itself *or* of the public at large. It has, indeed, been contended, and perhaps rightly so, that no school is entitled to the selfish monopoly of the scientific truths which its existence reveals; but not every corporate body is so prompt to see, and so ready to do its duty in such matters; and the votaries of Hygiene, at all events, will be the last to withhold their approval of a course which is consonant with their teaching and in furtherance of their own endeavours.

Handwriting in relation to Hygiene.

BY

J. JACKSON.

I think it was Lord Palmerston who once remarked that "Writing " is almost as important as speaking, because every man, whatever his " station in life may be, must have constant occasion to convey his " thoughts, his wishes, his complaints, his desires, in writing; and " unless that writing be legible and easily read, with the letters well " formed, so that a person can read that writing without trouble and " delay, it fails by disgusting the person to whom it is addressed."

It does not, however, require the authority of a renowned and eloquent statesman to inform or to assure us of the ever-increasing employment and importance of the caligraphic art. There is no occupation or rank in life into which as a potent factor, as an energising influence, writing does not enter. Whether in the diary and correspondence of the private individual, the recording of the business transactions of the merchant, the literature of the author and scientist, the briefs of the barrister, or the manuscripts of the theologian and ecclesiastic, writing is alike everywhere paramount and universally potential.

But not only is it thus all pervasive in every-day life throughout the civilized world, it rises to even greater prominence and significance in the case of the hundreds of thousands who as secretaries, copyists, or clerks, follow writing as their profession or business, and derive from it their sole means of subsistence. Such individuals are employed the year round for from 8 to 16 hours daily exclusively in clerical work. It is indeed impossible to exaggerate the importance of an art which is pre-eminently a vital principle in the machinery of the Law, the Civil Service, Commerce, Science, and in individual as well as International communication.

If we inquire into the origin and development of handwriting, we find it had its birth in an age of semi-barbarism; that at first it consisted of the most inadequate because the most imperfect pictorial representations, which gradually merged into a very crude hieroglyphic as the basis of an incipient alphabet. Subsequently this was modified still further, until ultimately it developed into an equally crude phonetic, the characters in which had little if any scientific meaning or relationship. From the ornate and laboured style of the mediæval period our present Italian style has been evolved, and if we carefully trace this development through its manifold stages and variations, we shall discover that it and they have all been purely responsive to exclusively caligraphic or so-called artistic demands. Pursuing our investigation a step further, the fact is revealed that these caligraphic and artistic demands have been controlled and dictated, not by logical and scientific principles, but by capricious and often conflicting theories.

The writing and not the writer has invariably been the supreme consideration in the growth and perfecting of the art of penmanship. Such and such a style of writing was pronounced to be essential, the correct thing in short; the dictum was accepted, the idea of an appeal was never entertained, and our victimised ancestry were doomed to bow, cringe, and twist under the system of bondage thus established. As to Hygienic principles, these have never been associated, even in a remote degree, with the history of slanting writing, which up to quite recent years has reigned unrivalled and undisturbed in our midst.

Indeed physiological requirements have not been recognised, much less urged, at any rate not in England, until within the past few years; and even at the present day not one teacher in fifty would spontaneously admit any possible connexion between Hygiene and handwriting, so defective is the state of education in this matter. That these hygienic principles and physiological requirements are or should be an integral

part of any system of penmanship that is accepted by the nation, there cannot be a shadow of doubt; but we may repeat emphatically that the existing style of oblique or slant writing has been evolved and elaborated independently and in spite of every hygienic and physiological principle. It is not the less remarkable that when the subject of school postures first engaged the attention of the medical faculty, the real root of the malady was never for one moment suspected, and that for so long a time it remained undiscovered. Possibly this was after all not unnatural, as the conception of an imperfection in the writing itself would be the last to strike the mind of the inquirer. Hence the various and contradictory conclusions that have been made. First, we were informed the instruction was at fault. Teachers were indifferent, or not sufficiently careful to inculcate correct postures; it only needed strict attention, efficient supervision, and constant care to remedy the evil. Time and experience proved the contrary, and then came the crusade against desks and seats. The former were too sloping or not sloping enough, the latter were too high or too low, and they were not adjustable, so we got both sliding seats and sliding desks; but, unfortunately, the malady remained although the old desks had gone. The question of "light" next exercised the scrutiny of our experts, and bad light or unsuitable light was made the scapegoat. This theory was almost immediately exploded, and the question being still unsolved remained in abeyance for a brief space.

It is matter for sincere congratulation that subsequent research has proved more successful, that all external and subordinate points have been finally disposed of, and that the "system of writing—of *sloping* writing" is the sole subject of investigation. And we are highly gratified to learn that the consensus of opinion finds its expression in the almost unanimous declaration that the "slant" or "slope" of the writing is the undoubted cause of the unhealthy and abnormal postures so grievously complained of. For thirty years we have had abundant opportunity for observation and experiment, and we have no hesitation in giving an emphatic confirmation to the medical testimony just alluded to. No matter what pattern desks and seats are in use, or what the light may be, or what the nature of the instruction, whenever the children are required to write in the sloping style their postures will present every possible variety of distortion and abnormity.

I am glad to be able to quote from an article in the weekly Austrian Hygiene, edited by Dr. J. Daimer, Secretary of the Supreme Council of Health in Vienna, a reprint of which was kindly sent me by Professor A. Reuss, after this paper had been forwarded to the secretary, and translated by my friend Dr. Carruthers: "The question of school "benches was considered as solved by a correct proportioning to the "size of the body by the introduction of the minus distance, and the "application of so-called back seats. The question proved unsolved. "Children sat upon the new benches approved by the faculty *just as* "*badly as upon the old.*"

The concurrent evidence of a combination of medical experts and specialists from which there can be no appeal, warrants the assertion

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that the side position of the body is inevitable in sloping writing; that twisting of the neck is equally unavoidable; that distortion of the spine must accompany the side position; that displacement of the right shoulder is a necessary consequence of the arm being pressed close in to the side; that the wrist must be deflected from the natural direction in order to maintain the required slope of the pen; that the side position of the body involves a disturbance of the common action of the two eyes, and that the oblique view thus obtained is more or less delusive; and that sprawling on or over the desks causing pressure on the chest is induced if not also required by the general posture imposed by the slanting writing. We will epitomise the directions given in our own young days, and still prevalent amongst the present generation of teachers, to a writing class:—1. Turn your left side to the desk. 2. Press the left arm close in to the side. 3. Place your left hand on the copy-book. 4. Press your right elbow in to the side. 5. Point your pen towards your right ear. 6. Turn your face towards the book. 7. Grasp the pen firmly and go on writing.

One involuntarily exclaims, What can be expected from a mode of writing that inflicts such conditions, such contortions as these? The reply is: From the writing, our expectations end in disappointment and acknowledged failure, since not twenty out of a hundred specimens of penmanship promiscuously taken are fit to be classed as excellent; and from the ranks of the writers, we obtain a vast number of debilitated and deformed victims so seriously afflicted in heart, lungs, spine, or eyes as to create a feeling of apprehension and alarm in medical and educational circles; yea, even in councils and cabinets. Eminent medical gentlemen have pursued their investigations into the question of postures with praiseworthy ability and exemplary patience. Whilst teachers have been, as a class, wholly quiescent, such men as Barnard, Cohn, Coindet, Carter, Guillaume, Leibrich, Carpenter, Von Reuss, Lorenz, Smith, and a host of others, have been indefatigably working with the outcome of a unanimous pronouncement that all the ills which initiated the inquiry are traced to the postures assumed in and required by the "slanting writing" taught in our schools. One writer tells us that "The postures of young people assumed in the sloping writing are "one of the chief factors in the production of spinal curvature." A second authority declares these posture to be "without doubt recog- "nisable as one of the most frequent causes of crooked growth."

Were this the only effect it would be more than sufficient to justify a thorough investigation into the whole question; but when equally dismal testimony is borne to the injury of other organs and the interference with other functions, the urgency of the case becomes vital and irresistible. I am not acquainted with any work that so fully exhausts this part of our question as the Reports of Drs. Reuss and Lorenz, already alluded to.

The great specific for these abnormal postures, with their train of disastrous consequences, is "vertical writing." The material difference between this upright or perpendicular style and slanting writing is in the direction of the down strokes of the letters: in the former being

definitely and absolutely upright, in the latter indefinitely and variously sloped or oblique. The difference which this slight and seemingly insignificant alteration in the down strokes makes, the effect which it exerts upon the writer is incredible, and when in conjunction with the minor characteristics of the system, viz., shorter loops, minimum thickness and continuity, the results are almost magical. Before detailing the several hygienic merits of upright penmanship, I would make grateful reference to some of the professional statements of medical men in favour of vertical writing. I say grateful reference, for to a teacher who has written the style and advocated its manifold claims to superiority for so many years, who has been met with derision and indifference, with incredulity and opposition, from almost overwhelming columns of prejudiced 'slopers'—it is more than solacing to receive the repeated, the unanimous, and the independent support of a phalanx of medical professors as invincible as it is incontestable. These experts (and in their own department they constitute our only qualified judges) declare that "vertical writing" is the only system consistent with all hygienic principles, that "It is impossible for writers to avoid twisting the spine "unless they adopt an upright style of caligraphy," that "The absolute "superiority of this method of writing over other methods must be "recognised," and that "Upright writing is very much to be preferred "to oblique writing."

Now, what are the postures or what is the position prescribed in the vertical writing? In one word, it is the natural position, the most normal position possible; indeed it is the posture that a pupil will instinctively assume, the attitude that he will naturally adopt in the effort to write vertically. Granted that the book lies evenly on the desk, and that the scholar has been duly instructed how to hold his pen between the thumb and two forefingers, the writer's position is dictated by the style of writing adopted, and he sits evenly and straight before his desk, with both arms thrown freely thereon, the whole posture being the simplest and easiest that could be prescribed for the efficient performance of the work to be done. The eye looks straight down upon its task, the hand, wrist, and arm are in the best posture for a running handwriting, the body is not distressed by artificial posing, the spine rests in a perfectly normal condition, the chest remains unrestrained by any undue leaning forward, and the writing is produced under the most favourable hygienic conditions with the least expenditure of energy, and therefore with the minimum amount of weariness.

Instead of the oblique position, we have the square or front posture; instead of the head all awry, we have a straight pose, securing an identity or parallelism of the facial and chest planes; instead of the elbows close in to the side, we have them both unrestricted and free; in place of the oblique and consequently delusive view of the book, we secure an even and perfect command of the writing; and instead of the awkward sprawl over the desk, we have the nearly upright position, free from even the tendency towards an unhealthy or painful attitude. It may be safely predicated that since all unnatural positions are precluded from the system, and that only the most natural and easy postures are

demanded by it, vertical writing in this relation may be accepted as strictly fulfilling every hygienic requirement.

Moreover, from an educational point of view vertical writing asserts its hygienic superiority, if we contemplate its simplicity and the resulting diminution of labour in teaching and acquiring the art. This economy I have frequently demonstrated as amounting to from 30 to 40 per cent. as a minimum. Also when we take into account the advantages it offers us in legibility and in speed (in both of which respects it is far ahead of sloping writing), thus securing an immense saving of time and energy in its production and perusal, we are driven to the conclusion that upright penmanship is the true penmanship, the *Ultima Thule* of caligraphic ambition, giving us the maximum of hygienic merits with no detracting disadvantages.

A word as to the actual achievements of vertical writing recorded in the evidence of numerous teachers in all grades of schools where it has superseded the old Italian style. And, after all, this test of experience is the crucial test which will once for all, and which has once for all, determined the correctness and soundness of theoretical medical experiments and deductions, and of our own educational categorical statements.

We are enabled to say that the *evidence is one*, undisturbed by a single conflicting dissentient. Scores and hundreds of contributions of this kind have been received, yielding a magnificent variety of testimony bearing on every possible question in the controversy. Briefly summarised, the evidence goes to show that wherever the Vertical Writing has been introduced it—(*a*) enkindles a greater interest in the art, both with teachers and children; (*b*) it entails much less labour in teaching; (*c*) it wonderfully accelerates the rate of progress and improvement; (*d*) it attains to a much higher standard of excellence, and develops a much greater command over the pen; (*e*) it materially increases the speed of the writer; and (*f*) lastly, it disposes finally and satisfactorily of the awkward and painful postures that have, under the *régime* of Sloping Writing, created such havoc in, and worked such irreparable mischief to, the juvenile constituency for so many years. Encouraged by these unquestionable facts, by the harmony and concurrence of both medical and educational evidence, and the more than commensurate results which have attended its introduction and adoption, one can surely be justified in believing that the day is not far distant when upright penmanship shall have the pre-eminence, and when (the relation and inseparable connexion of hygiene and vertical writing being universally recognised) it shall not need the protest of a faculty or the dictum of a council to make our people a nation of vertical writers, but all shall write vertically from the least even to the greatest.

It is, therefore, with the most profound and unqualified pleasure that I am thus enabled to submit to this Congress the practical and combined and unanimous experience of hundreds of teachers in support of the finding which so many distinguished members of the medical profession in this and other countries have arrived at as the result of

their independent and scientific investigations, and that I move the following *Resolution:—*

> "That as the hygienic advantages of vertical writing have been clearly demonstrated and established, both by medical investigation and practical experiment, and also that by its adoption the injurious postures so productive of spinal curvature and short-sight are entirely avoided, it is recommended that upright penmanship be introduced and generally taught in our elementary and secondary schools."

Demonstrationen die Einführung der Steilschrift in die Schulen betreffend.

VON

Dr. med. et phil. L. KOTELMANN, Augenarzt in Hamburg.

Unter den Fragen, welche augenblicklich die Schulhygiene bewegen, dürfte eine der wichtigsten, wenn nicht die wichtigste, diejenige nach der Einführung der Steilschrift in die Schulen sein. Denn es lässt sich nicht leugnen: soviel rationeller auch die neueren Schulbänke als die älteren sind und soviel auch fortgesetzt für die Verbesserung derselben geschieht, die Haltung der Kinder beim Schreiben lässt dennoch zu wünschen übrig. Es muss daher noch irgend ein Faktor nachteilig auf dieselbe einwirken, und als diesen Faktor sieht man mit Recht die in den meisten Schulen übliche Schrägschrift an.

Die letztere ist erst eine Erfindung der Neuzeit. Während des Altertums und des ganzen Mittelalters wurde steil geschrieben.

Ein altägyptischer Brief aus der Ramseszeit (14. Jahrh. v. Chr.), von dem Sie hier ein Faksimile sehen, weist Steilschrift auf. Dasselbe gilt von den älteren semitischen Schriftarten auf phönicischen, althebräischen, aramäisch-ägyptischen, palmyrenischen Inschriften, Münzen und Gemmen. Auch die griechischen und lateinischen Schriften, mögen sie nun auf Stein, auf Wachs, auf Papyrus oder einem anderen Stoffe geschrieben sein, zeigen Steilschriftcharakter.

Dass dieser auch während des Mittelalters beibehalten wurde, beweisen Schriftstücke aus dem 8. bis 16. Jahrhundert, welche von Dr. *Schubert* aus der Sammlung des germanischen Museums in Nürnberg veröffentlicht sind. Aehnliche Beispiele von Steilschrift finden sich in dem grossen Prachtwerke: "The Illuminated Books of the "Middle Ages. A history of illuminated books from the IVth to the "XVIIth century, by *Henry Noel Humphreys*, London, 1844," sowie in *Sickels* herrlichem Buche: "Monumenta graphica medii ævi," das aus Photographien von Urkunden auf einzelnen Kartons besteht. Von bekannteren Persönlichkeiten des Mittelalters schrieben, wie Sie hier sehen, steil: die Mitglieder der Nürnberger Patrizierfamilie *Pankraz* (1498) und *Brigitta Holzschuher* (1509), *Albrecht Dürer* (1506),

Michel Angelo (1510), *Leonardo da Vinci* (1517), *Luther* (1520), der Nürnberger Kaufherr *Paulus Behaim* (1533), sowie 83 Jahre später der Entdecker des Blutkreislaufes *Harvey* (1616).

Erst um die Reformationszeit findet die Schrägschrift Eingang, offenbar weil jetzt mehr und deshalb schneller geschrieben wurde. So zeigt die Handschrift *Isaac Newtons* (1682) aus dem britischen Museum Schrägschriftcharakter. Als Beispiel von Schrägschrift aus dem folgenden Jahrhundert lege ich die Photographie eines Briefes von *Mozart* (1777) vor. Die unter 45° geneigte Schrift wurde in Deutschland 1809 von dem Kalligraphen *Heinrigs* in Crefeld eingeführt. So wird denn Steilschrift heutzutage nur noch ausnahmsweise geschrieben, z. B. nach dem Vorgange seines Grossvaters und Vaters von dem deutschen Kaiser, von dem früheren preussischen Kultusminister *Falk*, von den deutschen Dichtern *Felix Dahn*, *Gustav Freitag*, *Hans Hopfen* und *Karl Frenzel.*

Und doch sollte dieselbe in Schule und Haus, namentlich in ersterer, die einzig übliche sein. Denn nur sie verbürgt eine richtige, die Wirbelsäule und das Auge nicht gefährdende Körperhaltung des Kindes. Die Steilschrift ist nämlich nur möglich, wenn das Heft, wie Sie an diesen Abbildungen mittelalterlicher Schreiber sehen, genau vor die Mitte des Körpers und zwar so gelegt wird, dass der obere Rand desselben parallel mit dem Tischrand verläuft. Da nun nach dem *Wundt-Lamanskyschen* Gesetze die Verbindungslinie beider Augenmittelpunkte, die sogenannte Basallinie, sich am liebsten parallel mit der Zeile stellt, so folgt, dass nur bei der eben erwähnten "graden Mittenlage" des Heftes der Kopf aufrecht, d. h. ohne Abweichung nach rechts oder links hin, gehalten wird. Liegt das Heft dagegen schräg vor dem Schreibenden in "schiefer Mittenlage," so wird der Kopf nach links hinübergeneigt, um die Basallinie in parallele Richtung mit den von links unten nach rechts oben verlaufenden Zeilen zu bringen. Damit aber nähert sich nicht nur das linke Auge der Schrift mehr, als wünschenswert ist, sondern es wird auch die Wirbelsäule nach rechts ausgebogen, so dass leicht Myopie und Skoliose entstehen.

Noch verwerflicher aber als die "schiefe Mittenlage" ist die "grade" oder "schiefe Rechtslage" des Heftes, bei der gleichfalls nur schräg geschrieben werden kann. Bei allen Rechtslagen nämlich werden Kopf und Rumpf nach rechts hin gedreht und das rechte Auge der Schrift mehr genähert als das linke. Aus diesem Grunde pflegt, wie durch eine umfassende Statistik von Dr. *Schubert* nachgewiesen ist, bei verschiedener Brechkraft beider Augen auch das rechte das stärker brechende zu sein. Eben wegen dieser von allen Hygienikern anerkannten Nachteile einer jeden Rechtslage des Heftes ist dieselbe denn auch in Bayern für Schulen verboten. In Preussen dagegen wird sie, wenn wir recht berichtet sind, in Lehrerseminaren und Schulen noch vielfach gelehrt.

Wie korrekt die Haltung eines steil schreibenden Kindes ist, ersehen Sie aus der Photographie, welche ich Ihnen hier zeige. Allerdings vermag auch das schräg schreibende Kind eine Zeit lang

aufrecht zu sitzen, wofür als Beleg diese Photographie eines russischen Gymnasiasten dient. Aber meist schon nach wenigen Minuten wird die richtige Haltung bei Schrägschrift aufgegeben, und die Kinder verfallen zum Teil in die wunderlichsten Stellungen. Am deutlichsten treten die Vorzüge der Steilschrift vor der Schrägschrift in Bezug auf Körperhaltung hervor, wenn man steil und schräg schreibende Kinder in naturgetreuen Abbildungen mit einander vergleicht. Aus der Schule des Herrn *Emanuel Bayr* in Wien ist berichtet worden und auch aus diesen Photographien ersichtlich, dass man sogar von hinten her steil und schräg schreibende Kinder an der Haltung unterscheiden kann. Einzig und allein kurzsichtige Schüler, welche keine Augengläser tragen, sitzen auch bei Steilschrift schlecht, d. h. vornübergebeugt. Diesem Uebelstande aber lässt sich leicht durch eine Brille für die Nähe abhelfen.

Neben den hygienischen hat die Steilschrift aber auch pädagogische Vorzüge. Schon der Umstand, dass die Kinder, welche noch keine ernsten Schreibversuche gemacht haben, ihre ersten Buchstaben steil zu schreiben pflegen, lässt vermuten, dass diese Schreibweise die natürlichere ist. Aus diesem Grunde wird sie auch leichter erlernt als die Schrägschrift und also Zeit und Arbeit bei ihrer Einführung erspart. Ein weiterer Grund für ihre leichtere Erlernung ist der, dass sie nicht wie die Schrägschrift an einen bestimmten schwer innezuhaltenden Neigungswinkel gebunden ist. So kommt es denn, dass sich nicht nur der Uebergang von der Schrägschrift zur Steilschrift ohne Mühe vollzieht, sondern dass auch Kinder, welche diesen Uebergang machen, ihre Handschrift nicht selten bedeutend verbessern. Liegt in dem Gesagten vor allem ein Vorteil für den Schüler, so hat auch der Lehrer einen solchen, indem ihm die Disciplin bei steil schreibenden Kindern keine Mühe macht; er braucht seine Kraft nicht auf fortgesetzte Ermahnungen zum Gradesitzen zu verschwenden, da die Steilschrift ganz von selbst zu richtiger Körperhaltung führt. Letzterer Punkt ist namentlich auch bei der Anfertigung der Hausaufgaben wichtig. Hat der Schüler diese in Steilschrift geschrieben, so ist man sicher, dass er die richtige Körperhaltung dabei eingenommen hat.

Unter diesen Umständen haben sich denn auch zahlreiche Mediziner und Pädagogen zu gunsten der senkrechten Schrift ausgesprochen. Aus medizinischen Kreisen ist in erster Linie das Gutachten des Obersten Sanitätsrates in Wien zu nennen. Dieser hat in seiner Sitzung vom 14. Februar d. J. einstimmig erklärt, er sei von der Zweckmässigkeit der Steilschrift überzeugt und deshalb an das k. k. Unterrichtsministerium das Ersuchen gerichtet, die geeigneten Schritte zur Einführung derselben in die Schulen zu thun.

Ebenso sind warme Anhänger der Steilschrift von den Anatomen Professor *Toldt* in Wien, von den Chirurgen Professor *Kocher* in Bern und Professor *Lorenz* in Wien, von den Ophthalmologen Professor *H. Cohn* in Breslau, Professor *Fuchs* und Professor *von Reuss* in Wien, von den Hygienikern Professor *von Fodor* in Budapest und Professor *Uffelmann* in Rostock, von den praktischen Aerzten Dr. *Wilhelm Mayer* in Fürth.

Was die Pädagogen anbetrifft, so ist namentlich der Schulleiter und Lehrer der Kalligraphie *Emanuel Bayr* in Wien für die Verbreitung der Steilschrift in Unterrichtsanstalten unermüdlich thätig gewesen. Ebenso haben sämmtliche Wiener Bezirkslehrerkonferenzen mit einziger Ausnahme derjenigen des X. Bezirkes, wo nur eine sehr geringe Majorität dagegen war, für die Einführung der Steilschrift in die Schulen gestimmt. Auch der Lübecker Lehrerverein hat in seiner Sitzung vom 15. Mai d. J. nach einem diesbezüglichen Vortrage des Lehrers *G. Hoffmann* erklärt, dass die senkrechte Schrift die geeignetste Schulschrift sei. Endlich unterbreite ich Ihnen hier eine grosse Anzahl Urteile von Lehrern aus Deutschland, Oesterreich und der Schweiz, welche bei verschiedener Motivierung alle darin einig sind, dass bei Schulkindern die Steilschrift an die Stelle der Schrägschrift treten muss. Da diese Urteile in Steilschrift geschrieben sind, so geben sie zugleich ein Bild von der grossen Deutlichkeit, Leserlichkeit und Schönheit derselben.

Dass sich die Sache auch praktisch durchführen lässt, dafür dienen diese Steilschriftproben von Schülern und Schülerinnen in Nürnberg, Fürth, Schwabach, München, Berlin, Hannover, Flensburg, Leipzig, ferner in Wien, Währing bei Wien und Prag, sowie in Winterthur und Eschlikon in der Schweiz zum Beweis. Unter diesen Proben befinden sich sowohl solche von Kindern, welche von Anfang an Steilschrift geschrieben haben, als auch solche, bei denen die Steilschrift an Stelle der früher geübten Schrägschrift getreten ist. Die höhere Schule für Mädchen in Leipzig hat die Eigentümlichkeit, dass sie beim Schönschreibunterrichte in Steilschrift, alle sonstigen schriftlichen Arbeiten aber in Schrägschrift schreiben lässt, eine Einrichtung, die uns wenig empfehlenswert scheint. Natürlich sind die Steilschriftproben derjenigen Kinder die schönsten, welche wie die von Fürth, Berlin und Flensburg schon mehrere Jahre steil geschrieben haben. Ein entschiedener Mangel war es, dass wir bis vor einiger Zeit keine Vorlagen für Steilschrift besassen. Diesem Mangel ist jetzt durch die treffliche "Schreibschule" von *Scharff* und durch *J. Kauffs* "Die gerade Schrift bei gerader Körperhaltung" abgeholfen. Ein weiterer Fortschritt für die praktische Durchführung der Steilschrift in Schulen ist der, dass man kürzlich in Nürnberg besondere Schreibhefte für dieselbe herausgegeben hat. Da nämlich auch bei grader Mittenlage des Heftes die rechte Hälfte desselben sich, genau genommen, in Rechtslage befindet, so hat man letztere dadurch zu verringern gesucht, dass man besonders schmale Schreibhefte für Steilschrift anfertigen liess.

Zum Schlusse lege ich Ihnen noch die in Deutschland bisher erschienene Litteratur über Heftlage und Schriftrichtung vor, welche, wie Sie sehen, bereits 3 stattliche Bände umfasst. Zahlreiche Männer haben sich um diesen Gegenstand verdient gemacht. Ich führe nur *Weber*, *Cohn*, *Berlin*, *Rembold*, *W. Mayer*, *Schenk*, *Kocher*, *Ellinger*, *Gross*, *Staffel*, *Bayr* und *Daiber* an. Das Verdienst aber, die Vorzüge der Steilschrift vor der Schrägschrift theoretisch und praktisch am sichersten begründet zu haben, gebührt dem Nürnberger Augenarzte

Dr. *Paul Schubert*, dem ich auch einen grossen Teil des hier demonstrierten Materiales verdanke. Aus dem gleichen Grunde bin ich Herrn Professor *H. Cohn* in Breslau für die Ueberlassung von Photographien mittelalterlicher Handschriften aus dem britischen Museum verpflichtet.

DISCUSSION.

Mr. Noble Smith supported the resolution moved by Mr. Jackson. His attention was first called to the subject when he made an inquiry for the School Board for London some years ago. His observations referred to the seats and desks, but he found that the School Board schools were better supplied with seats and desks than ordinary schools. He thought the subject well worth attention, and he further advocated the use of a pencil rather than pen and ink for school exercises. He moved as an *Amendment* "to omit the word 'entirely' and substitute the words 'to a great extent.'" The amendment was seconded by Dr. Gladstone, opposed by Mr. C. E. Keevil and Dr. Hutton, and then carried. The motion, as amended, was carried, with one dissentient.

American Child-Labour Laws.

BY

A. Jacobi, M.D., New York.

What I have to offer to-day is but a summary of facts and dates It is good principle and practice to look about now and then, and view the progress made in any human sphere; not so much for the purpose of enjoying the sense of having accomplished much, as to behold the height you have to climb, so far above you.

A hundred years ago there was no law regulating the relation of the working people to their employers at all. Seventy-five years ago, and later, babies of three and four years had to work in mines as a matter of course, and died; little children were employed in sweeping chimneys, and died; the pauper quarters and poor houses were emptied of their babies and children, who thus proved the cheapest raw material that could be used in the interest of greedy industry. England, being almost the only country in which the industrial and manufacturing interests flourished, was the principal theatre of these abominations. But, having committed the first and greatest sins, she was the first to retrace her steps and legislate in the interest of the helpless creatures. Now, tentative and empirical as all the legislation has been both in England and other countries, it still has accomplished very much. Restrictions have gradually been found necessary and possible in regard to the ages of children to be employed, the number of working hours,

the time of the day, the months of the year, and the character of the work; and in many parts of the world an educational test is applied. All these are as praiseworthy as they have proved successful. But the tentative and empirical nature of all such legislation is perhaps shown by nothing better than by the fact that the agricultural labours of the very young have never been included in any of the many acts provided for the protection of childhood.

Legislation for the purpose of confining child-labour within certain limits will be found parallel with the advancement of human and social culture in general. But to look upon the labouring children with merely a sympathetic eye, and a warm heart, does not cover the case at all. The question can be approached both with a sympathetic warm heart and from a calculating business point of view. In America, the legislative interference with the old way of brutally abusing children was first launched against the manufacturers to protect the young against the physical dangers resulting from premature and protracted work, confinement, bad air, and its consequences; also deformities, losses of limbs and lives. But the study of the discussions of legislative bodies and of the numerous annual reports of factory inspectors of a dozen States of the Union and provinces of the Canadian Dominion, for the furnishing of which I am under the greatest obligations to these gentlemen, has taught me that the laws enacted, one by one, with progressive improvements in their tendencies and results, were less the results of warm-hearted impression, than of clear-sighted statesmanship. Early child labour interferes with schooling and education. Child labour means ignorance, ignorance means helplessness and poverty, poverty means, or may mean, and does mean in a hundred thousand cases, shiftlessness and poorhouse, crime and prison. Thus human society protects itself, the State secures itself, by setting its face against premature child-labour. The dwarfed physical condition may people the hospitals and degenerate the physical state of coming generations—a great misfortune. But, what is more, the results of ignorance and the mental degeneration depending thereon will destroy the life of any nation. We in America are in great danger. In their first report the factory inspectors of the State of New York (1887), make the statement that American-born children were less educated than many foreign-born, to such an extent that many did not know even the name of the State they lived in.

This looks almost impossible with our American public school system. But it must not be forgotten that the children of the most forlorn and ignorant immigrants are called American-born, and are very numerous; and many of those children who themselves come from foreign parts, Germany for instance, have profited by the system of compulsory education prevailing in their former countries. Now, the very lowest politician amongst us has an interest in the stability of the republic; the good citizen and the statesman look upon the permanence and perfection of its institutions as the safeguard of its own future, and as an example for, and the future of, mankind. What if the generations of America get drowned in ignorance? Our dangers at this very time are very great. We have to digest and amalgamate the seven millions of negros, and as

many more illiterate foreigners who found a haven on our shores, and helped to develop onward their material resources. But while so doing the tornado of the immigration of the scum of Europe, the sunny south, the far south-east, the mediæval east, is sweeping over our land. Our country gives them citizenship within five years; many of us are afraid lest the conservative high-mindedness of the united republics will cause the victory of ignorant and uncouth hordes over an established civilization. Education is the only safeguard, but education requires time, and time that must not be spent in manufacturing establishments. Early child-labour interferes with child-education. That is why most American States have tried to defer the age at which labour in manufacturing establishments is permitted; that is why they insist upon compulsory schooling.

The Commission of the British Parliament appointed in 1875 to consolidate former Acts (those of June 22, 1802, of July 1819, of January 1833, of 1864, 1867, 1874, and many others) reported in February 1876. Its work resulted in "The Factory and Workshop Act, 1878." English legislation was imitated by Austria-Hungary in 1859, France in 1874, Switzerland in 1877, Germany in 1878. Of the English possessions the Presidency of Bombay enacted laws regulating factories and workshops up to 1882, the province of Ontario in 1884, and that of Quebec in 1885. Some of the United States took the matter up soon after the British Consolidation Act; New Hampshire in 1879, Maine, Rhode Island, Vermont, and Maryland in 1880, Massachusetts in 1882, New Jersey in 1883, Ohio in 1884, New York in 1886, Connecticut and Wisconsin in 1887, and Pennsylvania in 1889. It will be noticed that no southern States are mentioned; but it must not be forgotten that these States, particularly Georgia and Alabama, are just entering upon their period of participating in the methods of industry and commerce of modern civilization. The same may be said of many northern, or rather western States.

The "Second Biennial Report of the Bureau of Labour Statistics of the State of *Minnesota*, 1889–1890," by John Lamb, Commissioner, contains much valuable material. Unfortunately, the State of Minnesota has no laws prohibiting or regulating child-labour.* It is true, however, as I stated before, that the system of employing children in factories has not become so prevalent in Minnesota as in many of the eastern, southern, and central States. Less than half a dozen establishments are distinctively operated by child's labour. Nothing short of a census inquiry can reach the bulk of the children employed, for they are scattered and isolated. Still, the great manufacturing and mechanical industries of this State are not of the class wherein child labour can be, to any extent, profitably employed.

The legislation of the State of *Wisconsin* is about as defective as that of Minnesota, and for the same reason. Only Section IV. referring

* Personal letter from Mr. L. G. Powers, Commissioner: "Minnesota has no "laws relating to child's labour; hence there is no attempt made to place any "restriction upon it."

to the "Powers and duties of the Bureau of Labour and Industrial Statistics," speaks of the duty of the Commissioner to examine . . . . . "The employment of illegal child labour, the exaction of unlawful hours of labour from women and children." . . . . . .

But factory legislation referring to children does not always depend on external and material conditions, but sometimes on the state of public conscience and social culture, which are not always identical even in the older commonwealths, and perhaps even sometimes on mere thoughtless conservatism. Consequently, the regulations and stipulations differ very much in different communities; many resemble the British, many are more advanced, and many lag behind.

Thus, for instance, Mr. James R. Brown, Inspector of the Central District of the Province of *Ontario*, Canada, finds fault (1890) with the legislation in force, and referring to the State of Ohio, where nobody less than 16 years old is allowed to engage in hazardous occupations, insists that 14 years should be declared the minimum age for such employment. Mr. O. A. Roque, of the Eastern District, proposes 16 years for the same purpose, and adds, in referring to another topic: "In my report of 1888, I stated that the inspectors would be considerably assisted in preventing the employment of young children in factories by the putting in force of the school law, compelling them to attend school, but up to this time I have observed that no such steps have been taken in any locality in my district, except, perhaps, in the city of Ottawa. I consider that this object could be more effectually attained by an amendment to the Act preventing the employment of children under 14 years of age in any saw-mills, and of children in any factory covered by the Act under the age of 16, unless such children are able to read and write, and a certificate to that effect be furnished to the inspector whenever required."

From a paper read in New York by Inspector Barber, of the Province of *Toronto*, Canada, before the Fourth Annual Convention of Factory Inspectors, in August 1890, and from official documents kindly sent me by that gentleman, I present the following statements: The Ontario Factories Act, in force in the Province of Toronto, became law in 1884, but the inspectors, of whom there are three, were not appointed until late in June 1887. By the definition of a factory (including workshops) no place of employment comes within the jurisdiction of the Act unless there are at least six persons employed; originally the number was 21 persons.

No girl under 14 years of age, and no boy under 12 may be employed. Boys between 12 and 14 years of age must produce a certificate of age from a parent or guardian. This is to prove that such boy is actually of the alleged age. No certificate of age is required for girls, but the inspectors occasionally demand one when they are of opinion a girl is not 14 years old. The inspector also has the power to get the opinion of a physician as to a child's age, and such opinion overrules the statement of a certificate, if at variance with it.

The hours of work for boys under 14 years and females of any age are restricted to 60 a week and 10 a day; but the day's work may exceed

10 hours on condition that the number of hours so exceeded be taken off Saturday's working hours.

The Act in no way restricts the working hours of males 14 years old and upward, nor does it fix the time, day or night, for beginning or ceasing work. So long as 60 hours a week are not exceeded by females and children, they may work by day or by night, as the case may be.

The chief industries in Ontario that utilize the over-time clauses of the Act are confectionery, gloves, hosiery, knitted goods, shirts and collars, ladies' underwear, ivory buttons, fruit-canning factories, flannels, and blankets. The confectionery trade is pressed with orders in November and December. The trade in clothing and textile fabrics increases during the season. Fruit and vegetable canning factories frequently, when the hour for ceasing work approaches, have a quantity of fruit in process. So the law has given considerable latitude to these industries. For the latter industry there is no restriction as to the age of children employed, so long as their work is previous to the cooking process; after that process the general law applies in any case. Sixty hours are a week's work for all males and females under 14 years old, except under the over-time permit, when 12½ hours extra may be worked in five nights if it can be done by nine o'clock. Females 18 years old and upward may work later.

Here are plenty of loopholes for the carelessness of parents, and the greediness of trade.

The Province of *Quebec* adopted on December 30th, 1890,* the following:—

No male child aged less than 14 years, and no girl aged less than 15 years can be employed in a tobacco or cigar factory. In factories indicated in another list as unhealthy and dangerous, the age of the employed cannot be less than 16 years for boys and 18 years for girls.

In all factories other than those above mentioned, the age must not be less than 12 years for boys and 14 for girls.

There is no law that children and women must not work in the night. Under the law, however, the time between midnight of Saturday and midnight of Sunday must not be utilised. Indeed, alternate gangs have been kept at work in many instances.

There is no sort of compulsory education law, and no educational test like that of Great Britain. Therefore, one of the inspectors recommends half-time work for children, particularly as it has been found by experience that though there be evening schools, the overworked children cannot avail themselves of them.

In *New Hampshire*, no child under 10 to be employed by any manufacturing corporation. No child under 12, who has not attended the school of the district the whole time it was kept open. None under 14, unless he has attended school six months. None under 15, more than 10 hours per day without written consent of parent or guardian. None under 16, unless he has attended school for 12 weeks during the preceding year, and no child under said age shall be employed

* Not until then was there anything like a classification of dangerous trades.

(except in vacation time) who cannot write legibly and read fluently "in the readers of third grade."

The law of *Maryland* prohibits the employment of children under 16 years of age in factories for more than 10 hours per day, but has no limitation of age.

In *Rhode Island*, no child under 12 years of age can be employed in any manufacturing establishment. None between 12 and 15, more than 11 hours in any day, nor before 5 a.m., nor after 7.30 p.m. None under 15, unless he has attended school at least three months during the preceding year; and no such child shall be employed for more than nine months in any year.

In *Vermont*, children under 10 must not be employed at all; between 10 and 15, not in mill or factory unless they have received three month's schooling the preceding year; under 15, not more than 10 hours per day.

The Child Labour Law of the State of *Maine* prohibits the employment of minors under 12 years of age, and fixes 10 hours per day as the maximum length of time in which all children between the ages of 12 and 15 are permitted to work. The "Fourth Annual Report of "the Bureau of Industrial and Labour Statistics for the State of Maine, "1890," by Samuel W. Matthews, Commissioner, August, 1891, remarks that a number of large manufacturing establishments do not care to employ children between the ages of 12 and 15, for this reason: Under the present law the children between the ages above-named, are compelled to attend school for a part of the year, and owing to this fact, many establishments have substituted older help in place of these school children. It also complains that it is more the parents than the manufacturers who openly or stealthily oppose the law; and also that there is no uniform system as to the issuing of school certificates; and lastly, that there is no good compulsory education law. The law in Maine to compel the attendance of truant children is practically a dead letter, and has been so for years, excepting in one or two cities, where special officers are provided to enforce it. The manufacturer often complains that he sends the children out of his establishment to go to school, but instead of so doing they spend their time running about the streets. Therefore a law similar to the New Jersey Compulsory Education Law of 1885 is recommended.*

In the State of *New Jersey*, no boy under the age of 12 years, nor any girl under 14 years of age, shall be employed in any factory, workshop, mine, or establishment where the manufacture of any goods whatever is carried on, and no child between the ages of 12 and 15

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* The New Jersey Compulsory Education Law of 1885 enacts "that in all cities "having a duly organised police force, it shall be the duty of the police authority, "at the request of the inspectors of factories and workshops, or of the school "authority, to detail one or more members of the said force to assist in the enforce-"ment of this Act and in districts having no regular police force, subject to this "Act, it shall be the duty of the Board of Education, or the school district officers "to designate one or more constables of said city, township, or village, whose duty "it shall be to assist in the enforcement of this Act, as occasion may require."

years shall be employed in any factory, workshop, mine, or establishment where the manufacture of any kind of goods whatever is carried on, unless such child shall have attended, within 12 months immediately preceding such employment, some public day or night school, or some well recognised private school; such attendance to be for five days or evenings every week during a period of at least 12 consecutive weeks, which may be divided into two terms of six consecutive weeks.

In *Massachusetts*, no child under 13 years of age shall be employed at any time in any factory, workshop, or mercantile establishment. No such child shall be employed in any indoor work, performed for wages or other compensation, to whomsoever payable, during the hours when the public schools of the city or town in which he resides are in session, or shall be employed in any manner during such hours unless during the year next preceding such employment he has attended school for at least 30 weeks as required by law.

No child under 14 years of age shall be employed in any manner before the hour of 6 o'clock in the morning or after the hour of 7 o'clock in the evening. No such child shall be employed in any factory, workshop, or mercantile establishment, except during the vacation of the public schools in the city or town where he resides.

No child under 16 years of age shall be employed in any factory, workshop, or mercantile establishment, unless the person or corporation employing him procures and keeps on file the certificate of his having obtained a common school education.

No child who has been continuously a resident of a city or town since reaching the age of 13 years shall be entitled to receive a certificate that he has reached the age of 14 unless or until he has attended school according to law in such city or town for at least 30 weeks since reaching the age of 13, unless such child can read at sight and write legibly simple sentences in the English language or is exempted by law from such attendance.

In reference to the condition of things in Massachusetts, I quote a few remarks from the report of the Chief of the Massachusetts District Police for the year ending December 31st, 1889. He states that the main objections and obstructions both in regard to education and to age come from the parents of the children to be employed, that the manufacturers have now and then discharged minors who have refused to visit evening schools. It is also complained that the law referring to compulsory education and school certificates is still ambiguous; but it is claimed that 80 per cent. of children between 10 and 14 formerly at work are now receiving an education; and that there are but few illiterate minors where evening schools are maintained. Particular stress is laid, and justly so, on chapter 348 of the Acts of 1888, section 2, which reads, "No child under 14 shall be employed in any manner before the hours of 6 a.m. or after 7 p.m.," and refers to theatres or other places of amusement.

But under the laws of *Ohio*, the employment of children under 12 years is only forbidden in manufacturing establishments, while other industries, for instance, the work in mercantile establishments, and hotels, and the messenger service, are entirely unrestricted. This is

certainly wrong, inasmuch as in many particulars this labour is as pernicious as the rest, both physically and morally. Besides much of the labour connected therewith has to be performed in the night, to the detriment of the general condition, and particularly of the eye-sight. Indeed, Section 6896 of the Revised Statutes of Ohio forbids the employment of children under 18 years for a longer period than 10 hours per day or 60 per week, but it matters not when this employment takes place, whether during the day or night. This compares unfavourably with New York and Massachusetts, both of which forbid the employment of children under 18 and of women after 9 p.m.

Still, on the 8th day of April, the general assembly of the State of Ohio passed an Act to prevent the engagement of children in such employment whereby their lives and limbs might be endangered, or their health injured, or their morals be likely to be impaired.

In order to secure uniform obedience to the law, the Chief Inspector of Workshops and Factories, Mr. William L. McDonald, distributed directions* in reference to very numerous "employments at which "children under the age of 16 years shall not be engaged."

In the State of *New York*, no child under 14 years of age can be lawfully employed at any time, or for any period, however short, in any manufacturing establishment.

No child under 16 shall be employed in any manufacturing establishment who cannot read and write simple sentences in the English language, excepting during the vacations of the public schools in the city or town where the child lives.

The name and age of every child under 16 years of age must be posted in the room wherein it is employed. A register must be kept of all children under 16 years of age employed in manufacturing establishments; in such registers must be recorded the name, birthplace, age, and place of residence of such children. This affidavit and the register must be produced on demand made by the factory inspector or any of his deputies.

To violate or omit to comply with any of the foregoing requirements is a misdemeanor punishable by a fine of from 20 to 100 dollars, or by an imprisonment of from 30 to 90 days, or by both fine and imprisonment. To swear falsely to any affidavit as to age, &c. is perjury, and punishable as such.

In *Connecticut*, no child under 13 years can be employed in mechanical, manufacturing, or mercantile establishments at any time. Children between 13 and 14 may be employed if they have attended school for 60 days within the preceding 12 months. Children under 13 and over 8 may be employed if they have attended school for 120 days within the previous school year, but not in a mechanical, manufacturing, or mercantile establishment.

In *Pennsylvania*, no child under 12 years of age shall be employed in any factory, manufacturing or mercantile establishment. No child

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* Seventh Annual Report of the Department of Inspection of Workshops and Factories to the General Assembly of the State of Ohio for the year 1890. Columbus, 1891.

under 16 shall be employed, unless there be first provided an affidavit stating the age, date, and place of birth of said child. No minor under 16 shall be allowed to clean machinery while in motion. But no person, firm, or corporation, employing less than 10 persons who are women or children, shall be deemed a factory, manufacturing or mercantile establishment within the meaning of the law.

This latter clause is unfortunately found in the laws of a number of States. Thus it is, that under the authority of Society, any number of children may be employed and overworked. Besides, the agricultural work, the messenger service, and minor occupations about the houses, restaurants, &c. are not considered at all. The theatrical business is mentioned in the law of Massachusetts only. Thus the working of the laws, such as they are, leave much to be desired. Still, things are much improved compared with what they were before the enactment of those laws, and compare favourably with the condition of the factory children both in Great Britain and Canada.

How timely legislation in their favour really is, is best proven by the prevailing tendency to coerce them into factory service.

The Census Tables of the United States of 1870 and 1880 exhibit an increase of population of 30·23 per cent.; the increase in the number of those actually engaged in gainful occupations was much greater, and a disproportionate share of the increase falls in the class between 10 and 15 years of age. This class was represented in 1870 with 739,164; the ratio of increase of this class was 18·65 per cent., and would make the proportionate number 877,018. The actual number employed, however, was 1,118,356, with a relative excess of 241,338.

The object of child-labour laws is to prevent the child from being abused in the interest of production, and from being crippled in its normal development. The final evolution of mankind on the road to culture and humanity must necessarily include the full development of mental and physical forces of the growing individual, before the latter is compelled to participate in the labours requiring both. However, for the period of social progress at which we have now arrived, this view may appear utopian. But the very ideas regulating our present intercourse, and the mutual relations of capital and labour, would have appeared utopian centuries ago. So-called impossibilities have disappeared suddenly, when least expected. Mankind will sometimes adjust long continued grievances which appeared to be as firmly settled as the rocks, in sudden explosions. That solemn August night, a hundred years ago, which did away with feudal and class privileges and prejudices, and the outbreak of a civil war to wipe the spot of human slavery from the face of the United States, prove the possible proximity of the unexpected, and the perfectibility of the race.

Thus we have reason to hope that child-labour will be more and more limited, and finally disappear. No hard labour ought to be expected of the individual as long as he is not fully developed. Nor is it required. As early as 1876 the Royal Commission appointed in 1875, reported as follows: "We have no reason to believe that the "legislation which has been productive of such marked benefit to the "operatives employed, has caused any serious loss to the industries to

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" which it has been applied. On the contrary, the progress of manu-
" facture has apparently been entirely unimpeded by the Factory Acts;
" and there are but few, even amongst the employers, who would now
" wish to repeal the main provisions of the Acts, or would deny the
" benefit which has resulted from them."

I do not care to discount the distant future, when those able to work will, by common consent, be compelled to contribute their share to the required production of material and intellectual goods, when the working power of millions of able-bodied men will no longer be spent on the gorgeous display of alleged preparations for war, and other millions will no longer waste time and opportunities on distributing goods by waiting for, and on, customers; and when the labour necessary for the accumulation of products will be no longer demanded from those who would serve society better by first developing their physical and intellectual powers. Therefore, for the time being, we have every reason to greet with satisfaction the wisdom of additional legislation, as suggested by the Committee on Resolutions, of the Fourth Annual Convention of the International Association of Inspectors of Factories and Workshops of North America held at New York City, August 27–30, 1890, in the following words:—" To prevent the employment of
" children in factories, workshops, and mercantile establishments under
" 14 years of age, and compelling all children of such age, and all
" unable to read and write intelligibly the English language under
" the age of 16 years, to attend some public or private school until so
" qualified. To prevent the employment of any child under 16 years
" of age in any hazardous occupation, or in which its health is liable
" to be impaired, or its morals corrupted, and the employment of any
" minor under 18 years of age, or of any woman later than 9 p.m. or
" earlier than 6 a.m. of any day, and that no minor under 18 years
" of age, or woman, shall be employed more than 60 hours in one
" week; and we recommend that all legislation for regulating the hours
" of labour, and the employment of women and minors, be made
" uniform in the several States, excepting in the Province of Quebec,
" where French is spoken generally, where the same degree of efficiency
" should be required in the French or English language, here repre-
" sented. That laws be enacted in all States and Provinces requiring
" that at least 250 cubic feet of air-space be provided for each person
" employed in workshops during the day-time, and 400 cubic feet
" during the night-time, and that adequate means for free ventilation
" be provided, and we deem it advisable that children in our public
" schools be taught the importance of the preservation of health in all
" conditions of life, and a knowledge of the laws of hygiene and
" sanitation."

(Signed) Evan U. Davis (O.).
L. T. Fell (N.J.).
Jos. M. Dyson (Mass.).
John Traney (N.Y.).
Robert Barber (Canada).
W. S. Simmons (Conn.).
Committee.

An objectionable Feature of some Burial Societies in their relation to Infant Life Insurance.

BY

CHARLES E. PAGET, M.R.C.S., D.P.H., Medical Officer of Health for the County Borough of Salford.

As medical officer of health for a large manufacturing borough, the regular occurrence within it of an excessive infant mortality has necessarily occupied much of my attention.

The mere fact that female labour is at a premium in a manufacturing town opens up at once many roads by which the questions relating to the possible causes of high infantile mortality may be approached. It is, moreover, very difficult to separate one special cause for such mortality from those more common and more easily recognisable causes which are known under the headings of hereditary predisposition, food, want of cleanliness of air, soil, and water, and seasonal diseases.

In the course of my inquiries, however, I was naturally led to consider the possible influence of infant insurance as a predisposing cause of infant mortality, and though I am unable to bring forward evidence of a decided character in this respect, yet there are certain circumstances in connexion with the conduct of some burial societies which it seems to me ought to be more widely recognised and considered in relation to the main question.

A high infant mortality is common in large towns, but it is usually greatly aggravated in large manufacturing towns; it is also in large towns that indiscriminate infant life insurance is under the least restriction. In the first place, there is more scope for the collectors of a society in a town than in a country district, and more chance of their making something of a living out of the collection of dues and the increase in membership. But, besides, in country districts there is too great a knowledge of one neighbour's affairs by another, and too many petty jealousies, for suspicious proceedings, even within a family circle, to be passed over without comment. In a larger community, on the other hand, there is a tendency towards a closer union, the consequence of a harder struggle for existence under unfavourable surroundings and arising also in respect of wage and other social matters; there may also possibly be a common sympathy over the difficulties and the troubles of infant rearing in large urban districts. Anyhow, it does appear as if there was a smaller sense of parental responsibility in towns than in country districts, and certainly when the mother is herself a wage-earner that is an adverse condition against which a weakly child has further to contend in its struggle for existence.

The temptation to make capital out of weakly infant lives must be, among some of the poorer classes in large towns, a far greater one than most people can estimate, for to them the immediate possession of a sum of money equal to or double a week's wages is probably more to the

purpose than an ailing infant that is absorbing capital without much prospect of repaying it. At the same time, I am far from saying that such children are purposely put out of the way, mainly because I have no evidence in support of such an assertion, and so far I am in agreement with the following extract from a report of "the Select Committee on Friendly Societies," contained in the Charity Organisation Review, of January 1890:—"Admitting that insured children are often over-"laid, or destroyed by improper feeding, we may yet doubt whether "the insurance is usually the cause of the overlaying and bad feeding. "The true cause may be simply recklessness or ignorance. Of course "it cannot be denied that particular children have been done to death "for the sake of the burial money, but it is an open question whether "cases of the sort are so common as to justify the legislature in for-"bidding the insurance of young children. This is a point which may "be argued indefinitely."

As I have said, with the foregoing quotation I am in agreement; but there is a line at which I think that the legislature is in duty bound to interfere.

The insurance of young children is not universally made in insurance offices such as most persons are familiar with, for I have ascertained, with some trouble, that certain burial societies meet to pay claims and do business at public-houses. This is a matter of some importance. It may be said that it would be a hardship to deprive the poor of the superior pecuniary advantages of mutual insurance, that a proprietary office would have higher rates for the sake of the profits, and that the cheaper insurance society might be allowed to meet free of cost or for a small payment in any place it chose. To this I would make objection (1) that no one wishes to deprive the poor of the benefits of mutual insurance societies; (2) that the mutual societies of which I have information can afford to and do pay their presidents and secretaries for their services, and can probably therefore also afford to pay for rooms in which to transact their business; and (3) that rooms can always be found for these societies to meet in on reasonable terms elsewhere than in public-houses.

The three or four burial societies to which I am referring have these special objections about them, namely, that they meet at public-houses, and that their treasurers are the hosts of the houses.

The moral effect of these circumstances must be considerable, for there is thus always temptation at hand for parents to drown their sorrow and to treat sympathising friends out of the burial claims, and there is also an implied obligation on claimants to spend something for the good of the house, or, in other words, for the good of the treasurer. This obligation, however, is far from being an implied one. I can find no provision in any of the rules of these societies for the payment of the treasurer out of the funds of the societies, as in the case of the presidents and secretaries; on the contrary, the remuneration of the treasurer is particularly ordered to come out of the burial claims which are paid.

To give some idea of the form in which payment is ordered to be made to the treasurer *out of the burial claims*, I quote the following from the printed rules of three *unregistered societies* meeting at public-houses, and having the hosts or hostesses thereof for their treasurers :—

"1. Deducting therefrom for all under 12 months, 2*s.*; above 12, 4*s.*, to be left in the treasurer's hands for such refreshment as the claimant may think proper to take from the house where the society is held; if the claimant takes no refreshments from the house, then the treasurer shall receive the sum of 1*s.* from the above fund for his services.

"2. Deducting therefrom for all under 3*l.*, 2*s.*; 3*l.* and upwards, 4*s.*, to be deposited in the landlord's hands for refreshments of any sort the said claimant may think proper to have from the house where the fund is held. If no refreshments are taken, they shall receive the sum of 3*s.* extra, and leave 1*s.* with the host or hostess. The president, secretary, and senior collector each to have 4*d.* in liquor for each funeral, to be paid out of the society's funds.

"3. Any person becoming a member of this society by observing Rule 9, and paying every collection for one month shall be entitled to the sum of 1*l.*; two months, 2*l.* less 2*s.*, which he or she can have in drink, and a three months' member 3*l.* 6*s.*, and 4*s.* worth of drink, and if a member two years, then he or she shall be entitled to 3*l.* 16*s.* and 4*s.* worth of drink; but if any member at the time of his or her death be two collections in arrears the said member shall forfeit 10*s.*, if three collections 1*l.*, and if four collections he or she to be excluded from all benefits in this society."

The mildest comment that any one could make on these provisions of mutual burial societies must be, that any portion of the insurance or burial money, however small, should be taken out in drink is very objectionable. I am content to take that moderate stand; but I plead that such an objectionable custom, which is quite contrary to the spirit of the age, should be made illegal. The want of decency the rules display is amazing, and it cannot be wondered at if, with such inducements to drown their grief, parents and friends of the deceased ones fail to sustain the genuine article.

On the facts which have been thus brought forward I believe that the legislature should provide,—

(1.) That every mutual insurance society should be registered:

(2.) That no such society should be permitted to meet in any place in which the payment of wages is forbidden under the Truck Act:

(3.) That no chief officer of such a society should have a direct interest in the office of the society:

(4.) That all the chief officers, if remunerated for their services, should be paid out of the funds of the society:

(5.) That no deduction whatever be permitted from the burial or insurance claims by any officer of the society for any purpose whatsoever.

I have thus tried to draw attention to one feature in the subject of infant life insurance which seems to me to be deserving of attention in any endeavour to regulate the manner in which it should be conducted; the whole subject is one of the most difficult with which we have to deal in the present day, for while we cannot shut our eyes to the possibility of evil arising out of it, we must hesitate to thwart forethought and prudence among the poorer classes. I feel certain, however, that the prompt dissociation of burial societies from public-houses will do no harm to legitimate insurance, and I am much surprised that the many powerful advocates of temperance reform in this country have not before this prosecuted a vigorous crusade in that direction.

DISCUSSION.

Dr. H. R. Hutton (Manchester) said: For the last eight years I and my colleagues at the Manchester Children's Hospital have in our annual reports drawn attention to the existence in Manchester and Salford of burial societies which have their head-quarters at public-houses, and which pay some portion of the "death claims" in drink. For a time the mere existence of such a state of things was more than doubted, and I feel that Mr. Paget has earned our hearty thanks for bringing the matter to the notice of this Congress, and for furnishing us with absolute proofs of the truth of his assertions. With a view to strengthening his position, if that were necessary, I have carefully gone through our hospital records, and beg to lay before you the following figures and statistics, which relate entirely to infants and children of not more than 14 years of age:—

In 1884, 71 per cent. of the children who died were insured in some one or more clubs.

In 1885 the percentage was 75.

In 1889, with a total of 251 deaths, 184 were insured, and of these 162 were "in benefit" at the time of death, for an average sum of 3*l.* 4*s.* 7¾*d.* The sum total assured was 523*l.* 13*s.*

In 1890 the average "benefit at death" was 3*l.* 3*s.*

These figures show to how great an extent the practice of insuring the lives of infants and young children prevails in the towns named. In 1889 a very careful inquiry was made into this matter among our out-patients, and a very complete record kept. I find that of the first consecutive 50 children who died in that year, 41 were in benefit at the time of their deaths, and no less than 22 of these, or over 50 per cent., were insured in public-house clubs, or clubs which paid some part of the claim in drink.

At the present moment there are at least six such societies at work in Manchester and Salford.

Nor is this all. Friends and relatives, other than parents, in like manner insure children in these clubs, and I could give many examples of this were I not afraid of unduly occupying the time of the meeting. I may, however, be allowed to give particulars of a few of the most glaring cases:—

(1.) On the death of an infant of one year, the parents receive 4*l.*, and three shillingsworth of drink, from a public-house club.

(2.) On the death of an infant of four months, 30*s.* and one pint of spirits is paid.

(3.) An infant of three months dies, insured in two public-house clubs for a total of 2*l.* 10*s.*

(4.) A baby of two months earns for its parents by its death only 1*l.*, and two shillingsworth of drink.

I will mention but one more. In one family there have been five children, of whom one only now remains; the others have died at the ages of 11 months, 15 months, 21 months, and 11 months respectively. In each case three shillingsworth of drink was given in addition to the insurance money, which amounted to the sum of 17*l.* The father of these children was out of work for a great portion of the time during which these deaths occurred. I was hardly surprised to find the following memorandum on the counterfoil, "Certificate refused; wrote to coroner."

To conclude, then, the facts brought to your notice by Mr. Paget and myself prove, I think—1. The frequency of infant life assurance. 2. The prevalence of insurance in public-house clubs. 3. The commonness of the practice of accepting drink in part payment of claims.

And, while not saying or even believing that the practices here condemned lead parents to do away with their infants, I do think that the facts revealed point to the existence of a real and great evil. The dread of a "pauper funeral" is both a natural and a salutary one, which is entirely removed by this ready method of providing a sum of money, greatly exceeding, in many cases, the costs of the funeral; while, combined with the specially objectionable practice to which I have referred, this form of infant life assurance, in my opinion, directly encourages reckless and improvident marriages, neglect, and intemperance.

Defective Personal Hygiene as it affects the Teeth in Infancy, Childhood, and School Life.

BY

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It would be impossible to exaggerate the value of a good set of teeth in a healthy mouth, and that whether the denture is regarded as an important organ of digestion, as a valuable factor in the mechanism of speech, or as a decorative appendage which adds to the beauty or attractiveness of its owner's appearance. Yet there is, probably, no portion of the physical economy which is so generally and systematically neglected. It is not surprising, therefore, that the digestion, the speech, and the appearance of the bulk of the community are most seriously affected by this general carelessness, which is only equalled by the ignorance from which it arises.

Caries is the scientific name of the disease which leads to the wholesale disintegration of the tissues of the teeth which are the hardest structures entering into man's composition. Its injurious effects are enormously increased by the fact, that if neglected it almost inevitably leads to a train of diseases which have the greatest influence upon the well-being of the entire organism.

A communication, read to the British Dental Association in 1885, advocating compulsory attention to the teeth of school children, originated a movement which has gone on with increasing force and influence ever since. The practical outcome of this movement was the appointment of a committee to arrange a uniform scheme of investigation as to the condition of the teeth of school children throughout the country, in order to obtain statistics for the following purposes:—Firstly, to acquire a more exact knowledge of the condition of children's teeth at various ages; and, secondly, to show by means of the facts thus acquired, the disabilities under which children frequently suffer in their growth and development, and the important bearing this condition has upon the future health of the individual.

This investigation is still far from being complete, but a sufficient number of examinations of a reliable nature have been made to prove the almost appalling frequency of dental caries and other diseases of the mouth, especially during the period of school life.

The frequency of caries is due to a variety of conditions which may be assigned to two distinct categories, the one intrinsic and the other extrinsic. Intrinsic conditions are those which arise from incomplete development, deficient nutrition, or the mal-position of individual or of several teeth, and which, by lowering the co-efficient of resistance, offer special points of attack. They must, therefore, be regarded as predisposing conditions in contradistinction to all extrinsic agencies.

Faulty structure of the teeth is the most important of all the predisposing causes of dental caries. Just as a lump of table salt dissolves more rapidly in water on account of its porosity than an equally large piece of rock salt, so porous dentine is more rapidly decalcified than well developed, firm dentine, because the acid can more rapidly penetrate the tissue, and because less acid is required to complete the decalcification.

Deep fissures are usually found on the grinding surfaces of the bicuspid and molar teeth, frequently on the lingual surfaces of the front teeth and more rarely on other surfaces. These naturally favour a continual retention of food particles and thus induce caries, from the absence of an intact covering of enamel. If the enamel itself is also poorly developed then the advance of disease will be all the more rapid. Not infrequently, owing to some inflammation while the tooth is being formed, the enamel instead of being evenly distributed over the dentine presents a pitted or deeply furrowed surface. These teeth besides being, as a rule weak, are extremely unsightly, and are commonly known as honeycombed teeth. Occasionally these teeth have a high co-efficient of resistance, in which case they are strong but extremely ugly.

A crowded condition or an irregular position of the teeth in the jaws predisposes to decay by forming spaces which favour the accumulation and retention of fermenting and acid-forming substances in contact with the enamel; in this connexion the form of the teeth is not without considerable influence, as teeth with convex contiguous surfaces, by having their points of attack reduced to a minimum, are relatively less subject to caries than teeth with flat or slightly concave

surfaces. Many of these irregularities are entirely due to preventable causes, two of which are especially important as affecting that period of life to which the consideration of the subject is at present necessarily limited.

Premature loss of temporary teeth is probably the cause of some irregularities, but it is completely overshadowed by the more disastrous effects of their undue retention. The roots of the deciduous teeth are not always completely removed by the natural process, and the successional tooth is thereby frequently diverted from assuming its natural position in the arch. More serious effects, however, are produced by the retention of temporary teeth, usually in a carious condition, and frequently accompanied by a chronic abscess formation, which originated in neglected caries. Undue retention of the temporary teeth must be regarded as a predisposing cause of caries, if only from the fact that it favours the retention of fermentable matter, since the teeth cannot be kept clean either spontaneously by the tongue, or in mastication, or artificially by the application of the tooth-brush.

A recession or loosening of the gums from neglect of the teeth not only lays bare the dentine, but also permits the entrance of food particles round the necks of the teeth or into pockets formed by the loosening of the gums by which means a further predisposing cause for caries is furnished. This condition is most characteristic of a later period of life than that with which we are presently concerned, but the results of the examinations of the teeth of school children prove that although this condition is relatively infrequent, it is occasionally found at this early life, when it is usually accompanied by deposits of tartar, which may be of very considerable quantity. Such a condition is entirely due to defective personal hygiene of the mouth. Many of the teeth of the school children examined show that they were in many instances remarkably clean, although they were absolutely innocent of the application of the tooth-brush, which conclusively proves that mastication properly performed and aided by the movements of the lips and tongue is a highly important factor in keeping the teeth clean, and the mouth in a healthy condition.

Many believe that a predisposition to caries may be inherited. It cannot be denied that badly-developed, irregular teeth are inherited; and, so far, inheritance may be considered as a predisposing cause of caries.

With regard to general diseases which are often described as predisposing causes, we adopt Miller's view that they should rather be regarded as "exciting causes of caries by imparting an acid reaction "to the buccal juices."

Many authorities, notably Galippe and Magitot, in France, and Harlan, Sitherwood, and Kingsley, in America, regard excessive intellectual work during childhood and adolescence as an important factor in promoting the frequency of caries. Galippe has pointed out that, while we make laws in order to prevent children working in factories at an early age, little or no heed is paid to those other factories usually known as "schools," in which pupils submit spontaneously to, or are

coerced into, intense mental work, with a view to some examination which crowns their studies or decides their future career. There is, on the whole, good ground for believing, as these authorities maintain, that premature or excessive intellectual work reacts upon the constitution of the teeth, and that in pupils whose scholastic success is very remarkable, caries is extremely frequent.

The extrinsic agencies producing caries include the result of such general diseases as scrofula, rachitis, dyspepsia, fever, and others such as rheumatism, gout, &c., not usually associated with the period of school life. Any disease (local or general) which has the effect of acidifying the saliva, should be regarded as an exciting cause of caries, and therefore demanding special attention to the condition of the mouth, with a view to the neutralisation of the saliva. Increased attention should, therefore, be devoted to the hygienic care of the mouth during sickness, instead of which even ordinary precautions are relaxed. Even when the patient is incapable of using a tooth-brush, his comfort will be increased by having the mouth rinsed by an antiseptic wash.

The chief exciting cause is the chemical change produced by micro-organisms in the fermentable matter lodged upon and between the teeth. Caries is, therefore, "a chemico-parasitical process consisting "of two distinctly marked stages; first, decalcification, or softening of "the tissue, and, secondly, dissolution of the softened residue." The acids, which effect the decalcifications, are derived almost entirely from amylaceous and saccharine substances, retained in the fissures and defects, or on the surfaces of the teeth, and which undergo fermentation there. It is no new idea to regard the acids formed from sugar as being especially injurious to the teeth. Miller considers that starch and amylaceous substances are much more detrimental to the teeth than sugar, particularly as sugar being readily soluble is soon carried away, or is so diluted with the saliva as to be rendered harmless, whereas amylaceous matter adheres to the teeth for a greater length of time, and consequently exercises a more continued action than sugar. Fermentable albuminous substances mixed with the saliva, develop but small quantities of acids which soon disappear.

"The second stage of caries, namely, the dissolution of the "softened dentine by bacteria, is directly detectable under the "microscope, and may be easily accomplished experimentally." The albuminous substance contained in the dentine forms, indeed, an excellent medium for the growth of bacteria, with the result that the soft tooth tissue is dissolved by the bacteria ferment, much as white of egg is by the gastric juice. The rapidity with which the process of destruction of the teeth advances in any mouth, is evidently directly proportional to the intensity of the fermentation going on in the cavities or spaces where the food is retained, and inversely proportional to the power of resistance of the tooth substances.

The main points to be remembered are that caries is due to extrinsic or external causes which proceed from without inwards, and that as they affect most rapidly and completely those tissues which are richest in organic matter, the dentine of which the bulk of the tooth is

composed is more quickly destroyed than the enamel; and, further, that the action of micro-organisms plays by far the chief rôle in the production of caries. In a scientifically clean mouth, therefore, there can be no caries. Prophylactic precautions, then, must consist in judicious efforts to sterilise the mouth, for it is obviously impossible to confine the diet to albuminous fermentable substances, such as flesh, eggs, &c.

With the appearance of the teeth arises the necessity for the application of personal hygienic precautions. In determining the necessity for these precautions, the mouth may be regarded as an incubator, in which, not only are the conditions of heat, humidity, and oxidation perfectly realised, but bacteria and a nutritive medium are almost inevitably constantly present. Having thus acquired some idea of the nature of the disease, and of the causes by which it is produced, it is well worth considering how far these latter are under our control, especially as related to the period of life with which we are more immediately concerned.

Faulty structure is mostly dependent upon constitutional conditions both of the parent and the child during the earliest part of the formation period of the teeth, and therefore is very largely beyond our control. It is important to remember, however, that, although the period of development begins particularly early in life, it is more or less actively continuous to a relatively late age, as the process of calcification, which begins some five months before birth, is not really complete until the age of about twenty. It is evident, therefore, that much may yet be done to improve the quality of the tooth structure, even although some injuries and defects be already beyond repair. Both the bones and teeth, containing as they do a large percentage of earthy matter, necessarily require during the period of their growth a very liberal supply to the blood of those constructive substances which can only be derived from the food.

Those food stuffs best calculated to promote the formation of strong teeth should be prominent in the dietary of infants and children. It would take too long to discuss the most appropriate dietary, suffice it to remember that the chief article of food, the so-called staff of life, is made somewhat of a broken reed by the senseless practice of measuring its quality by its whiteness. The production of this very whiteness necessarily means an exclusion of that portion of the wheat which is richest in nitrogenous and earthy matter; while again, a dark or brown colour is no certain test of its dietetic value, for much of the so-called whole meal or brown bread is but a commercial fraud. The bread as made for and supplied to our prisons may be taken as a type of what wholesome bread ought to be. As oatmeal is a well recognised and wholesome article of diet, it should be remembered that while the removal of the finer bran from wheat reduces the amount of nitrogenous and fatty contents of the flour, the removal of the husks from oats has precisely the opposite effect, so that the finer the oatmeal the richer it is in those ingredients.

It is also important that the food should offer to the teeth a salutary resistance which they must overcome, since the mechanical action

exercised by such food stuffs has the very best effect upon the tooth structure. It is a well recognised law of general application that every organ which we do not use ends by becoming atrophied from loss of its functional energy. The more the teeth are used in mastication the better will they be able to stand the attacks which they must inevitably encounter. If this is once rightly apprehended the importance of the first teeth becomes strikingly obvious, for, as the "Lancet," commenting on Mr. Fisher's plea for the compulsory attention to the teeth of school children, says, in discussing this question: "If we wish to get "at the root of the evil we must commence our treatment with the "deciduous teeth. Many patients—nay, even medical practitioners— "ask, what is the use of preserving teeth which have only to serve their "purpose for a time, and which nature will replace? If a surgeon "were asked what is the use of provisional callus in a case of fracture "his answer would be readily formulated, and just such an answer is "applicable to the teeth. We will run over just a few of the points "that may result from disease of the teeth and its neglect. First, with "regard to the child's health, with decayed teeth and often in addition "chronic gumboils, the little sufferer is kept awake at night and his diges- "tion affected by inability to masticate his food, and more so by swallow- "ing the fetid discharges from the abscesses. As a consequence the "child becomes weak and puny, and so the already developing teeth suffer "from the constitutional disturbance. Supposing each tooth as it becomes "the seat of disease is extracted, then the masticatory power is greatly "enfeebled, and moreover it has been shown that where many deciduous "teeth have been removed, especially in the case of the canines, the "jaw does not develope as rapidly as it should do, and consequently "when the permanent teeth erupt, some take their position inside and "some outside the arch, which irregularity is a potent predisposing "cause of caries, apart from its unsightliness. Again, take for instance "a very common case, that of the second temporary molar extensively "decayed. The first permanent molar assumes its due position "posterior, and the first bicuspid anterior to it. Both these permanent "teeth are frequently found affected on the side corresponding with "the diciduous tooth, and the disease is undoubtedly due to the infection "from decomposing food harboured by it. Although much more might "be said upon this subject, we think that enough has been advanced "to show the importance of the first teeth with reference to the welfare "of their successors, which should, but so often do not, do duty for a "lifetime. We believe that nothing short of the periodical examination "every six months, and treatment if necessary, of the teeth of children "can effectually cope with this evil."

Further means by which we can counteract or limit the ravages of caries are well summed up by Miller, who is our greatest authority on the action of micro-organisms of the human mouth: "By repeated "thorough systematic cleansing of the oral cavity and the teeth, to so "far reduce the amount of fermentable matter as to materially diminish "the production of acid as well as to rob the bacteria of the organic "matter necessary to their development; by prohibiting the consump-

" tion of such foods and luxuries as readily undergo rapid fermenta-
" tion, to remove the chief source of the ferment-products injurious to
" the teeth; and lastly by a proper and intelligent use of antiseptics to
" destroy the bacteria and to limit their number and activity."

Mechanical cleansing exercises a great influence upon the process of fermentation in the human mouth; and, therefore, as soon as the temporary set of teeth is fully erupted, a suitable tooth-brush supplies the best method of cleansing, which operation should be performed daily, the most efficient time being after meals.

Efficient use of the temporary teeth in mastication is important in order that both the permanent teeth and the jaws may be made stronger and better developed; it is imperative to see that no crusts of bread are left or disposed of by being dipped in tea or any other similar fluid. Statistics prove that the state of the first teeth is, in something like two-thirds of the infants examined, already such that by the fourth and fifth year their masticatory powers are seriously impaired.

Any thorough system of prophylaxis must include periodical examination of the teeth by a competent dental practitioner, more especially as the arrest of caries is, generally speaking, easy of accomplishment, if only it is taken in time, which is usually long before the process has signalled its presence by the causation of pain. If the child's denture is in such a condition that efficient use causes uneasiness or pain, it is a sign that the case requires urgent attention.

The tooth-brush is too frequently used improperly, the action being confined to a more or less superficial application of it to the external or labial surfaces of the teeth with a to-and-fro motion. Its proper application consists in its being applied to all the surfaces of the teeth as far as possible. A rotary motion is the most effective, since the to-and-fro motions merely polish the surfaces which the motions of the lips, cheek, and tongue keep tolerably clean. The brush should be made, first of all, to impinge upon the gum, and then be carried towards the masticating surfaces with a rotary motion. The upper teeth must therefore be brushed from the gum downwards and the lower from the gum upwards. The to-and-fro motion will suffice for the cleansing of the masticatory surfaces.

With regard to the kind of tooth-brush, a round handle facilitates the rotary movement and the bristles should be of medium stiffness, not too hard, otherwise the gums may be unduly lacerated. By dipping the brush into hot water the bristles may be softened to the proper consistency. It should be remembered, however, that one is more likely to err in the selection of too soft rather than too hard a tooth-brush. Brushes with soft bristles are bad, and words are not strong enough to describe the stupidity of employing such a "make believe" as the badger-hair brush. As a rule, most tooth-brushes are made with an unnecessary number of bristles, and the bundles of bristles are too close together, where they are inserted into the back of the brush. Such brushes soon become clogged towards the back with an objectionable mass of tooth-powder, epithelial scales, and food débris. The india-rubber tooth-brush is also of comparatively little use for cleansing

purposes. The tooth-brush should never be enclosed in that wretched piece of toilet ware, known as the tooth-brush tray; after use, the tooth-brush should be dried on a towel and placed in a rack or jar to drain and allowed to dry freely exposed to the air and sunlight.

Frequently the use of the tooth-brush becomes perfunctory or is given up entirely, because of the gums bleeding. The more the gums bleed on brushing the greater is the necessity of not only continuing the brushing but of increasing the vigour of its application. Any extreme readiness of the gums to bleed is the sure indication of their being in a diseased state, and the vigorous brushing, with the consequent bleeding, will usually bring the gums into a healthy tonic condition, in which they present no tendency to bleed.

Even if the tooth-brush is applied in the most thorough manner, it is difficult to prevent the lodgment of fermentable matter between the proximal surfaces of the teeth. Waxed floss silk may be introduced between even the closest teeth, and, as it is gently drawn to and fro towards the neck of the tooth, surfaces are cleaned which would never be reached by the tooth-brush. Ordinary embroidery, or skein silk, cut into short lengths and drawn across a piece of hard beeswax is quite as efficient, and much less expensive, than the spools of wax floss silk, especially made for dental purposes. Short lengths of india-rubber, square or round, such as is used in the manufacture of elastic webbing, will also act in a similarly efficient way; by being stretched, it passes between the teeth at the masticating surfaces, and on the tension being relieved it fills up the larger spaces towards the next, and as it is drawn through removes the débris.

Where teeth are placed somewhat apart, or where teeth stand alone, short lengths of ordinary thin narrow linen tape will be found efficient agents, while narrow silk tape, also well waxed, would be better where the teeth are closer. Narrow strips of tracing cloth, such as is used by architects, is another material which may be used either with or without being waxed, and has the advantage of being waterproof. Where the tendency for the formation of tartar is great the charging of the ligature or the band with tooth-powder will do much to prevent the formation of deposits, presuming, of course, that the teeth have been first of all scaled. Such a cleansing as this will take a considerable time for its proper execution, and, if the ordinary daily cleansings are thoroughly carried out, the more extensive processes of cleansing need only be performed at longer intervals, say about once or twice a week. The importance of attention to the cleansing of the proximal surface is apparent when we know that, with the exception of the grinding surfaces of the molars, the majority of the cavities of decay are on these surfaces.

The use of the toothpick is unfortunately essential to the comfort of some adults, but it should not be thought of as a cleansing instrument for the teeth of children.

If one starts with clean teeth, the teeth may be kept fairly clean by means of the tooth-brush, plain water, and floss silk, and "time," much time being given to the operation. In the light of our increased

knowledge as to the etiology of dental caries the particular value laid on tooth-powder tends rather to decrease than to increase. There can be no doubt, however, that the use of a tooth-powder greatly facilitates the retention of the natural colour of the teeth, which I think is a better way to put it than using the stereotyped expression that the use of a tooth-powder makes the teeth whiter; that a good tooth-powder does not and should not do. All that may be reasonably expected of it is that it will remove, by mechanical friction, stains and discolourations obscuring the natural colour of the teeth, which is after all far from being white.

The principal action of a tooth-powder, then, is mechanical rather than medicinal. It is important, however, to regulate its frictional power. The powder should be very finely grained, and not gritty, therefore it should contain no cuttle-fish powder, no powdered oyster shells, no pumice powder, since these substances are too mechanical in their action. It should consist of alkaline substances, and must contain no acid ingredients, or such as are capable of changing to acids in the mouth, since these are extremely destructive to tooth structure.

The presence of an antiseptic agent in the tooth-powder is desirable. Some antiseptic ingredients of tooth-powder are, however, to be condemned, for instance, charcoal and charred bread, although both antiseptic and frictional, are too gritty, and from constant use leads to the formation of a permanent bluish border to the gum, owing to the particles becoming buried in the tissues.

Miller recommends precipitated chalk, taken up on the tooth-brush with a dash of neutral or slightly alkaline soap, but he also considers a tooth-soap as being preferable to tooth-powder. He has also pointed out that as a matter of fact there is no evidence whatever that anything has as yet been accomplished in the prophylactic mouth wash alone: "It would, however, be going too far if we were to adopt the views "of those who have expressed the opinion that by proper care of the "teeth and constant use of antiseptic washes from childhood on, decay "would be entirely banished from the human mouth. This view is too "optimistic, for various reasons, chiefly because there are places in "every denture which will remain completely untouched even by the "most thorough application of the antiseptic which will reach them in "so diluted a condition that it possesses little or no action. If a very "thorough mechanical cleansing has not preceded the antiseptic, its "action upon the centres of decay will be equal to little more than "zero. The great difficulty lies further in the fact that nearly all the "materials which possess antiseptic action are either contra-indicated "altogether in the mouth, or that they may be used only in very dilute "solutions, either because they are injurious to the general health, or "locally to the mucous membrane or to the teeth themselves. Finally, "many otherwise useful antiseptics are excluded because of their bad "taste and smell. For these reasons the preparation of a mouth wash "which possesses antiseptic action of any importance is accompanied "by the greatest difficulties."

Miller has made an interesting series of experiments in order to determine the time necessary for devitalisation with a number of the antiseptic materials in the form of a mouth wash. As the time during which in rinsing the mouth the wash remains in contact with the teeth varies from a few seconds to at most a minute, it will at once be seen that in order to sterilise the oral cavity a material must be found which is capable of devitalising bacteria within a minute or less. It is possible after the complete mechanical cleansing of the mouth to obtain by means of a solution of bi-chloride of mercury (1 in 2,500), the almost perfect sterilisation of the mouth. On account of its poisonous properties and still more, perhaps, from its horrid and undisguisable taste, this material is not suitable for general application.

Listerine which consists of oil of eucalyptus, borobenzoic acid, winter green oil, &c., has been proved experimentally to be a very useful antiseptic mouth wash. It should be applied on a brush on cleansing the teeth or slightly diluted as a mouth wash.

The best means, then, we have towards attaining this seeming impossibility of having a scientifically clean mouth is to rely on a very thorough application of mechanical means tooth-brush, floss silk, &c., aided by antacid and sterilising washes, the efficacy of which will be in proportion to the time of contact.

The hygiene of the sick-room has been excellently treated except on the question of defective personal hygiene as it affects the mouth, and as the subject is not mentioned as far as I know in any published work on the care of the sick, nor even in any popular treatise on the teeth, a few words here may not be out of place.

Dr. Briggs, of Boston, has published some valuable hints and directions on this subject, and rightly emphasises it with a view to the comfort of the invalid: "If you wish to see a grateful patient, rinse the "mouth with some antiseptic solution, after he has been left for days "without care! I have had people tell me that nothing done for them in "the course of their illness gave them such a feeling of comfort and rest "as purifying the mouth.

"In extreme cases, where the patient is in a comatose condition, the "mouth can be wiped out with a soft cloth wet in the antiseptic solution; "but in most cases I have found the ordinary invalid feeding-cup to "answer the purpose nicely. The patient takes the solution into the "mouth through the long spout, and, having rinsed thoroughly, closes the "lips about the spout and forces the liquid back into the cup, all done "without raising the head from the pillow.

"I have no doubt there are physicians and nurses who attend to "this matter, but I also doubt not that they are few and far between."

The proper time for the principal act of this personal hygiene is after the last meal. To brush the teeth in the morning only, is to lock the stable door after the steed is stolen. To do so after each meal must obviously be salutary and so economic a proceeding, that the time necessarily involved is far from being wasted. To those who have never acquired the habit, it may seem irksome and unnecessary, but to those

who have done so, comfort is not complete without even these supplementary cleansings.

Shortly after taking my degree at Harvard University, in 1876, I was called upon to act as dental officer for a short period, in a school devoted to the training of some poor gutter children, near Boston, U.S.A., and never shall I forget my first visit to that school, and seeing the children turn out promptly after dinner to what we may term their usual tooth-brush parade. In that school they needed not my instruction, but only my professional services in repairing the small amount of caries, inevitable even amongst such well cared for mouths. My fee was paid out of the private contributions of the members of the committee, a highly intelligent body of men and women, who showed the appreciation of the services of their own family dentist in the best possible way, by caring for, and treating the teeth of those poor children as if they belonged to members of their own family. Nor could I help contrasting this state of affairs with the miserable treatment I myself received when at school. In our dormitories there hung at the end of each bed, a bag for the reception of the brush and comb and I well remember on its external aspect a long mysterious narrow pocket, evidently intended for the reception of the tooth-brush handle. During my residence of seven years in that school, I never saw within the walls of the institution a tooth-brush in one of these pockets, yet it was a rich institution, in fact so rich that it really did not know how best to spend its income. There was a dentist attached to the school, but my own experience, like that of the other boys, was ruthless extraction of our teeth when they ached. I have since learned that he received the munificent sum of 10*l.* a year for his services in a school of 180 boys, and I further know now that this skilled and scientific practitioner delegated his functions to the none too delicate hands of his pupils with a view to giving them practice. No attempt to prevent pain and suffering and the loss of valuable organs by filling, no advice as to cleansing or caring for them, came within our ken. Better for me, at least, better for my dental armature, had I been one of those gutter children at that American School than the successful scholar in that rich Foundation School. Better the intelligent care of that considerate lay committee than the ruthless indifference of that highly qualified school dentist.

If I have seemed to dwell unduly on this question of oral hygiene, it is for a very simple reason. The economic aspect of any proposed measure of reform must always demand careful consideration, but it would be impossible for any body of school managers to assert with reason that any reform of school dental hygiene presents any serious economic difficulty. While the initiation of any reform rests with the authorities, it is the superintendents and the teachers who must be the active agents in its application. Teachers in schools where the children are resident cannot escape from their vicarious parental responsibility. They may, like parents, descant on the alleged impossibility of getting children to brush their teeth, forgetting that the regular cleansing of the mouth is as teachable as the washing of the face.

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In the schools examined on behalf of the British Dental Association the mouths of all the scholars were certified as clean in one school only, the Church of England Home for Waifs and Strays, Marylebone Road. Here the excellent tooth-brush habits are encouraged by a system of good marks which is sufficient proof that the result is due to a difference in the authorities rather than in the scholars.

One good and direct effect of our collective investigation has been the introduction of a tooth-brush into some of the schools examined. That the mere supply of a tooth-brush is insufficient, is proved by the return from a small better-class school in Cambridge where the boys resided with their parents or guardians and in every case acknowledged their possession of a tooth-brush. Not a single mouth could be registered as clean, all dirty and a few very dirty. Inquiries as to when they used it elicited such replies as "on Sundays," "twice a week," "occasionally," "when I go out to tea," &c.

We must now consider as briefly as possible the necessity for remedial treatment for this disease which is so characteristic of all the periods of school life from infancy onwards.

As the temporary teeth have already been alluded to, let us consider the principal features of the British Dental Association investigation.

A very small per-centage of children have mouths free from caries, and a still smaller per-centage do not require dental treatment of any kind. In a large number of cases the cavities are few and in such a condition that a short and almost painless operation would save the teeth for years and in some cases for life, were proper hygienic care bestowed upon them. Indeed such teeth, where the decay had been removed and the cavity filled, would actually be in a better condition than when erupted, as all such early carious cavities are dependent upon structural defects such as pits and grooves in the enamel. This latter fact is further illustrated by the tendency of the corresponding teeth on each side of the mouth which are developed at the same time, to become carious. Despite these defects, such teeth may have a high co-efficient of resistance.

In another series of cases we may find many cavities, but still in an initial stage, in which, besides the pits and fissures, we find the approximal surfaces attacked, mainly in front teeth. In yet another series, we find that, from the rapid development of caries, a few teeth are already too far gone for any treatment, otherwise than by extraction, such a condition may be found even within a few months after eruption. Still these cases are only advanced stages of cavities, which were once in the incipient stage, and therefore once saveable.

In a very small per-centage of cases we find a large number of cavities in an advanced stage. In such cases any remedial treatment will have to be renewed again and again, as no process of filling can affect the low co-efficient of resistance, though diet, out-door exercise, and use of the teeth may improve their quality as age advances.

In quite a number of cases the labial surfaces of the teeth are found to be seriously affected, not so much by cavities as by surfaces of

decay extending over the enamel, such a condition is entirely owing to habitual uncleanliness, as the teeth are often covered with a thick coating of a pasty starchy mass of food débris. If the decay has not extended beyond the enamel, thorough cleansing and polishing of the enamel may arrest the mischief.

The tooth most frequently affected with caries is the first molar which is erupted during the fifth, sixth, or seventh year. The first permanent or so-called sixth year molars are the largest teeth in the mouth and therefore very important factors in mastication. They have no successors and should not be allowed to become extensively decayed; even if they cannot be permanently saved, there are good reasons, with reference to the preservation of the integrity of the arch and to the requisite growth of the jaws, why they should be retained until the second molars (twelth year) are erupted or erupting.

The economic aspect of treatment at this age is of the highest importance, for caries is essentially a disease of youth, from its dependence on predisposing causes which diminish as age advances. Most weak points in structure, pits, depressions, and proximal surfaces, will have been attacked before the age of 17 or 18, and almost all those which will ever succumb by the age of 25 years. Further, a cavity of decay in the proximal surface of one tooth usually leads to its neighbour becoming affected, and thus far caries is an infectious disease. Even in bad cases, if the caries can be eradicated and excluded for a time, its control becomes fairly easy if the patient performs rigorously his share of the preventive work.

It is also true that if certain teeth must be extracted, the best time for doing so is between the eleventh and the thirteenth year.

Treatment during school life directed to the amelioration of any irregularity of the teeth must be an important factor in minimising the number of carious cavities by the removal of a not infrequent predisposing cause. Moreover in many cases where the position of the teeth is quite regular, it is found that the extraction of four teeth, most frequently the first molars, or more rarely either of the bicuspids, is in its final effect more truly conservative treatment than their retention by resort to purely restorative operations.

The greater the likelihood of the individual being unable to procure the alternative restorative treatment in later life, the greater is the necessity for applying this remedial radical treatment, technically termed symmetrical extraction. This operation to be most successful should be performed from the eleventh to the thirteenth year, according to the eruption of the teeth. If it is deferred to a later age than the fifteenth or sixteenth year there is great uncertainty as to the final results. The subsequent movement of the teeth which results from judiciously applied symmetrical extraction is such that even an expert may doubt in later years, as to whether the first molars have been extracted or not, whereas the functional value of the denture as a masticating organ may be ruined by the indiscriminate extraction of the same number of teeth.

To ignore the abnormal or diseased conditions of the teeth during this period (from the sixth to the sixteenth year), even if unaccompanied by pain, will inevitably lead to a partial, if not a complete, wreckage of the dental organism as a masticatory apparatus, earlier or later, in the third period of the individual's life history. There can be no question that from the trifling attention, and often from the entire lack of attention, paid to the teeth during this important period of eruption, a very large number of patients are doomed to pass through the third and major portion of their lives lamed and crippled so far as their jaws are concerned, or obliged to put up with the relatively poor comfort, and frequent discomfort, of artificial substitutes. The lack of the watchful care of a thoroughly qualified dental practitioner, especially during the first half of the eruptive period, frequently entails resort to the cumbersome, the discomforting, and the expensive mechanical appliances for the correction of irregularities which might have been easily avoided.

During the past ten years I have had an opportunity of acquiring a pretty thorough knowledge of the average condition of the teeth of the University undergraduate, and have seen the fearful destruction caused by dental caries in the mouths of those who may be taken as typical of all that is best so far as social condition, physique, and means can afford mitigation or relief of these conditions.

If we regard for a moment even the purely academic aspect of some of these cases, is it not a deplorable short-sightedness and a sense of false economy, which leads both the parent and the schoolmaster, by the neglect of attention to the dental organism during this eruptive period, to run the risk of a complete breakdown of the student on the eve of an all-important examination from pain and suffering with his teeth? The period of the ordinary, and especially of the honours or the tripos examinations at Cambridge, is characterised by a notable increase in the number of acute cases calling for treatment, and I have known more than one case where the student's position in the class list was materially affected thereby. What is true of this class of the community must be also more or less true of others. An intelligent student somewhat surprised me the other day by asking why it was that the parent and schoolmaster were generally so particular as to the quality and sufficiency of the food at school and so utterly disregardful as to whether the boys had or had not an efficient dental mechanism for the mastication of that food. Of course, my only reply could be that it was in consequence of their utter ignorance of the importance and the advantages, both economic, and, as I am also convinced, educational, derivable from adequate attention to the teeth of the school children.

Without dwelling on the prevalent neglect of the teeth during early life, and the great amount of severe pain, loss of teeth, and the consequent incapacity for complete mastication—entailing indigestion and other serious maladies—to which that neglect leads, I should like to refer to the evidence of Mr. Bennett Williams, who has called attention to a fact which cannot be without interest in such a Section as this, namely, that a defective condition of the teeth may seriously impair their function as a part of the mechanism of phonation.

As a contrast to this, I would quote the evidence of a distinguished tutor at Trinity College, Cambridge. He advises his pupils to have their teeth put thoroughly in order, as he has found so many of them break down at examination time from acute pain. These cases are always of the third or fourth degree of caries and therefore of long standing, and involving disease of the pulp or the pericementum.

In the course of tabulating the British Dental Association statistics I was prompted to place the returns of teeth filled amongst the "accidents," for the very simple reason that I had before me the condition of about 2,000 mouths and only two teeth returned as having been filled. Out of about 40 schools examined, I found only one to which a dentist had been appointed and was compensated in such a manner that his professional service was not confined to merely extracting teeth. This school is the Metropolitan and City Police Orphanage at Twickenham. A careful perusal of the report of the board of managers of the year 1890, shows that this institution is very largely supported by the contributions of the various police divisions. The dental surgeon's report is instructive, and the result of the statistical inquiry for the association is a very satisfactory proof of the utility of qualified professional skill. Under all the heads of inquiry this school contrasts very favourably with the others. In fact, it headed the list of having the lowest number of teeth requiring attention, as related to sex and average age. The number of boys examined was too small for comparison with other schools. The number of girls (84) is sufficient to give average results. The lowest age was eight and the highest age was 15, and the average age 12 years and 8½ months. The number of temporary teeth requiring filling was eight, and the number requiring extraction was 31. The number of permanent teeth requiring filling was 31, and the number of teeth lost was 19, and the number of teeth demanding extraction was 49. The number of teeth filled was 67, a figure which is quite unique in our investigation so far. In estimating the number of teeth which had been attacked with caries it was necessary to correct the total of teeth requiring attention, and the ratio was thus raised from 118 per cent. requiring attention to 197 originally defective, thus showing that 80 per cent. had received adequate attention. The dental surgeon attached to this school may well be proud of this achievement, as it represents an expenditure of professional time for, which in my opinion, he is only partially remunerated by his annual salary of 20*l.*

The managers of the North Surrey District School at Anerley, appointed a qualified dental surgeon some years ago. The dental surgeon attends one morning in each week, the school directors supplying instruments and materials and giving a salary of 60*l.* a year. As there are 850 boys and girls between the ages of 3 and 16, I believe the remuneration is insufficient if the work be efficiently performed.

In a few other schools, appointments have been made with satisfactory results, except where the amount of remuneration is so inadequate that only extractions are done.

It is not creditable to the humanity of the age in which we live that even the poorest children should continue to be subjected to a cruel operation which it is perfectly evident might be avoided in a very large proportion of cases.

The following report in connexion with the Dundee Industrial School, containing 200 boys and 85 girls, from Mr. Fisher's case book, is more to the point. These are the words of the report: "Toothache "seems the great, and almost the only, trouble in the schools. The "housekeeper said that if they had a dentist they could dispense with "the services of the physician; as yet they have no dental attention "beyond an occasional extraction when a child is suffering from acute "pain." Mr. Fisher has also shown the economic aspect of this question, especially as related to industrial schools, by showing that to continue neglecting the teeth of these children—when they are at the age that the maximum of benefit may be attained with the minimum of work—seems to be something like our Legislature continuing a vice against itself, as the very boys the Home Office endeavours so well to develop physically strong, and on whom the Treasury spends so much, are ignored by the Admiralty if they have the misfortune to be in the possession of a few bad teeth, when it is scarcely possible for it to be otherwise, as they do not receive the requisite attention and treatment to sustain their physical life.

With regard to the better-class schools, and especially those where the pupils are not resident, I would suggest the appointment of a dental officer, not necessarily to supply professional services to the pupils, unless the parents had failed to have the teeth attended to by their own dentist. Nothing should be done to interfere with the rights of the parents to consult the dental practitioner in whom they have most confidence.

An alternative plan, which is already adopted by some, in this respect, intelligent schools, is that a certificate from some reputable practitioner that the teeth are in good order should be required on entering the school, and also on the return from each vacation. Autocratic as such a suggestion may sound, it is justifiable, for our contention is that just as children suffering from other diseases are declined until restored to health, so those suffering from dental disease should be refused as unfit for scholastic work.

Wednesday, 12th August 1891.

The Chair was successively occupied by—
THE PRESIDENT,
DR. A. JACOBI,
DR. GLADSTONE,
DR. WM. BROWN.

The following Resolution, submitted to the Section by the School Board of Hull, was read, and ordered to be entered on the Minutes:—

"That this Board is strongly of opinion that while the sanitation of public elementary schools has been much improved under State regulations, a large number of private adventure schools exist which are gravely deficient in sanitary arrangements, and are subject to no proper sanitary inspection whatever; and that steps should be taken by the Congress to impress upon the Government the necessity of placing these schools under some efficient system of inspection."

The Working Curve of an Hour: an Experiment concerning Overpressure of Brain.

BY

Dr. LEO BURGERSTEIN, Vienna.

It is not difficult to observe that one hour's occupation with the same subject produces fatigue in school-children; certainly we are not able to indicate a special reason why school lessons for the different subjects and ages last just one hour. If there must be a generally fixed period for school lessons, it is to be wished that this period be only so long as the *most difficult* subject taught to the *youngest* children may permit.

As for the somatic question, we know for example very well how great the pollution of air in schoolrooms generally is, and so on; greater difficulties arise from the psycho-physiological question; as to that, we have not the needed direct examinations.

It was for that reason I made the following experiment. I wrote the 10 figures of our decadic system in quite an arbitrary manner, and then continuing a second time in a new arbitrary combination; below those 20 figures I wrote a new combination of 10 and 10 figures, and so the first addition example was given.

Combinations of that kind were made 10 times, always varying the series; so I had 10 addition examples of the same working value and the needed variation in the detail. Second 10 addition examples were

found by writing the second, fourth, sixth, and then the first, third, fifth pair of figures from the first 10 examples. The third 10 addition examples I obtained by writing the examples for the first 10 additions backwards, the fourth 10 by writing the second 10 examples backwards.

So I had four times 10 addition examples of the same working value and variety in the detail.

Then I wrote the first line of every addition as multiplicand, and took the figures 2, 3, 4, 5, 6, 2, 3, 4, 5, 6 as multiplicators; so I had four times 10 multiplication examples of about the same working value.

Now I took the first addition as number 1, the first multiplication as number 2, the second addition as number 3, and so on. In that way I arranged the first 10 addition and 10 multiplication examples as work for the first 10 minutes of a school lesson; and in a similar manner 20 examples, 10 additions and 10 multiplications for a second, third, and fourth 10 minutes' time. The examples for every ten minutes were printed in a convenient form, with figures of 4 m.m. high.

Here I give a copy of the task set for the first 10 minutes and the first example of the second, third and fourth 10 minutes' task:—

I. Name: Class:

Nr. 1) Add - 2 8 7 0 3 4 5 1 6 9 2 7 4 0 8 3 1 5 6 9
+ 3 5 8 6 9 4 2 7 1 0 8 2 1 5 9 7 6 0 4 3

Nr. 2) Multiply 2 8 7 0 3 4 5 1 6 9 2 7 4 0 8 3 1 5 6 9 × 2

Nr. 3) Add - 5 4 3 9 2 8 0 6 7 1 5 7 8 9 3 0 6 2 1 4
+ 6 2 5 9 1 3 4 0 7 8 8 1 0 6 2 7 8 4 9 3

Nr. 4) Multiply 5 4 3 9 2 8 0 6 7 1 5 7 8 9 3 0 6 2 1 4 × 3

Nr. 5) Add - 7 2 6 8 0 5 1 9 4 3 3 7 6 0 5 1 4 2 9 8
+ 4 6 7 1 3 5 0 2 9 8 1 6 9 2 4 3 0 7 5 8

Nr. 6) Multiply 7 2 6 8 0 5 1 9 4 3 3 7 6 0 5 1 4 2 9 8 × 4

Nr. 7) Add - 6 4 3 0 8 5 2 9 1 7 8 9 7 2 0 5 3 6 4 1
+ 2 5 6 8 4 3 9 7 1 0 2 1 5 0 9 7 3 8 6 4

Nr. 8) Multiply 6 4 3 0 8 5 2 9 1 7 8 9 7 2 0 5 3 6 4 1 × 5

Nr. 9) Add - 3 8 9 2 7 5 6 0 1 4 1 5 7 9 3 2 4 0 6 8
+ 4 6 8 2 9 1 3 0 5 7 2 9 3 4 0 5 8 1 6 7

Nr. 10) Multiply 3 8 9 2 7 5 6 0 1 4 1 5 7 9 3 2 4 0 6 8 × 6

Nr. 11) Add - 5 7 2 8 9 1 0 4 3 6 2 0 9 8 1 3 5 6 7 4
+ 7 0 4 8 3 5 6 9 2 1 1 4 8 2 0 3 9 5 6 7

Nr. 12) Multiply 5 7 2 8 9 1 0 4 3 6 2 0 9 8 1 3 5 6 7 4 × 2

Nr. 13) Add - 9 1 0 2 7 8 3 5 4 6 2 9 8 6 5 4 0 7 1 3
+ 6 9 7 0 4 3 1 5 2 8 8 0 1 3 6 4 9 2 7 5

Nr. 14) Multiply 9 1 0 2 7 8 3 5 4 6 2 9 8 6 5 4 0 7 1 3 × 3

Nr. 15) Add - 5 6 2 1 0 9 7 4 3 8 7 3 5 6 8 0 2 9 4 1
+ 3 6 9 4 5 2 8 1 0 7 5 6 4 7 9 0 3 1 8 2

Nr. 16) Multiply 5 6 2 1 0 9 7 4 3 8 7 3 5 6 8 0 2 9 4 1 × 4

Nr. 17) Add - 8 1 2 0 3 7 5 6 9 4 3 0 8 5 9 7 6 4 1 2
+ 5 6 7 3 8 1 2 4 9 0 9 8 4 0 7 3 2 5 1 6

Nr. 18) Multiply 8 1 2 0 3 7 5 6 9 4 3 0 8 5 9 7 6 4 1 2 × 5

Nr. 19) Add - 2 3 7 5 0 1 6 9 4 8 1 9 2 0 8 6 5 7 3 4
+ 2 4 7 8 1 3 9 5 6 0 8 4 5 2 6 0 1 9 7 3

Nr. 20) Multiply 2 3 7 5 0 1 6 9 4 8 1 9 2 0 8 6 5 7 3 4 × 6

II. Name: Class:

Nr. 1) Add - 8 0 4 1 9 7 0 3 5 9 2 7 3 5 6 2 4 8 1 6
+ 5 6 4 7 0 2 5 7 0 3 3 8 9 2 1 8 1 9 6 4

III. Name Class:

Nr. 1) Add - 9 6 5 1 3 8 0 4 7 2 9 6 1 5 4 3 0 7 8 2
+ 3 4 0 6 7 9 5 1 2 8 0 1 7 2 4 9 6 8 5 3

IV. Name: Class:

Nr. 1) Add - 6 1 8 4 2 6 5 3 7 2 9 5 3 0 7 9 1 4 0 8
+ 4 6 9 1 8 1 2 9 8 3 3 0 7 5 2 0 7 4 6 5

The work required here was very light, the children being accustomed a great many times to make additions and multiplications, and there was a pause of five minutes after every ten minutes' work. The

work was done chiefly during the first school lesson in the morning. Of course it would be of use to make many other experiments also.

School and Class.		Day of the Experiment.	School-Lesson in the Morning.	Number of Children (162 in all).	Average, Age, Years, Months, Days.
					Y. M. D.
Public School for *Girls.* ("Bürgerschule.")	Fourth	Monday	The first, 8-9 o'clock.	35	11 0 2
	Fifth	Monday	The first, 8-9 o'clock.	33	11 10 5
(Commercial) School for *Boys.* ("Real schule.")	First	Tuesday	The first, 8-9 o'clock.	44	12 2 10
	Second	Monday	The second, 9-10 o'clock. (8-9 French language.)	50	13 1 0

The total number of figures made by all the 162 individuals in the 40 minutes was as follows:—

Resulting Figures.			Errors.			Corrections.		
Total.	Addition.	Multiplication.	Total.	Addition.	Multiplication.	Total.	Addition.	Multiplication.
135,010	70,473	64,537	6,504	2,255	4,249	2,649	1,132	1,517

Three second-class boys were ready with the third 10-minutes work together, in $2\frac{1}{2}$ minutes before 10 minutes were over; 7 second-class boys furnished the work for the fourth 10-minutes' time together, 10 minutes before the 50 times 10 minutes. For all those individuals I made an alteration in the form of an augmentation of their respective number of figures, errors, and corrections, calculated in their respective 10 minutes; with those alterations the number of figures, &c., is severally as follows:—

Resulting Figures.			Errors.			Corrections.		
Total.	Addition.	Multiplication.	Totals.	Addition.	Multiplication.	Total.	Addition.	Multiplication.
135,637	70,787	64,850	6,514	2,259	4,255	2,658	1,135	1,523

We see that my alteration of the numbers has no essential effect upon the general result. I shall consider, in the following remarks, the results obtained from using the altered numbers.

In seeking the wrong ways taken by the minds of children, one may observe in a great many cases, that a figure which has been often named (written thought) just before exercises an influence; remainders are forgotten to be carried on, or remainders not existing are carried on; that operations are changed, figures of a similar form are confused, or

without visible reason figures are mistaken. It is not possible to furnish statistics based on the different qualities of errors, because the origin of a great many is not clear. Many observations show *a diminished aptitude to keep in the mind things done just before;* other errors indicate *a depression of the faculty of perception,* as does the changing of the figures.

As to the explanation of errors, one may observe in the school itself, when children are counting aloud, that there are mistakes, for the origin of which a special reason is not to be found.

Often, of course, there are series of mistakes, because it is not possible to know exactly how many times a false figure in such a series is the natural consequence of another wrong one. I counted every wrong figure as a unit. My idea was the comparison of the quality of work in the consecutive 10-minutes' periods. Corrections signify foregoing errors, but they signify also a perception of the error at the right time. I think then, that a greater number of corrections may signify rather a better than a lower standard of work, even if there are more errors at the same time.

As a consequence of practice, it is to be expected that *the work performed should increase in every consecutive period,* so long as the organic material is sufficient. The performance itself is composed here of both quantity and quality; but I think that one would not expect in advance the results which appear from the experiment.

The results show, first of all, in the average of every class an increase as well of the resulting figures as of the mistakes and corrections. If the number of mistakes increases in a higher degree than that of figures, the difficult question arises, whether with the increase of *quantity* and the decrease of *quality* of the work, the total of *performance* is a better, equal, or lower one.

The per-centage of the resulting figures, errors, and corrections from the first working period to those following is, for all the children collectively, as follows:—

The Figures, Errors, Corrections increase	Figures.	Errors.	Corrections.
From the I. ten-minutes' time to the II. of % made in the I.	14·8	51·5	58·2
„ „ „ „ III. „ „	25·3	136·3	162·8
„ „ „ „ IV. „ „	39·5	177·3	194·0

that is to say, the increase of mistakes is much higher than that of resulting figures.

For all individuals together, the number of figures, mistakes, and corrections, is as follows:—

The number of *resulting figures* for all individuals together *increases*—

From the I. ten minutes to the II. in the amount of 4,210 figures.
„ II. „ „ III. „ „ 2,966 „
„ III. „ „ IV. „ „ 4,007 „

that is to say 4, 3, 4 thousands; from the II. to the III. 10-minutes' time the absolute *increase of quantity of work* is the *lowest* one.

The number of *errors increases*—

from the	I.	ten-minutes'	time	to	the	II.	by the amount of	441	errors.
„	II.	„	„	„	III.	„	„	719	„
„	III.	„	„	„	IV.	„	„	349	„

that is to say, about $4\frac{1}{2}$, 7, $3\frac{1}{2}$ hundreds; from the II. to the III. ten-minutes' time the *diminution* of the *quality* of work is the *greatest* one.

The number of corrections increases—

From the	I.	to the	II.	ten-minutes'	time	by the	amount of	207	corrections
„	II.	„	III.	„	„	„		166	„
„	III.	„	IV.	„	„	„		225	„

that is to say, about 2, $1\frac{2}{3}$, $2\frac{1}{4}$ hundreds; from the II. to the III. ten-minutes' time the increase of corrections is the smallest one; from the II. to the III. ten-minutes' time the increase of mistakes is the greatest one, the opportunity of making corrections then very great; on the other hand, the augmentation of figures is the smallest one. As to the corrections, I do not lay much stress upon them.

If we count how many errors are contained in every hundred resulting figures, we find, that in the—

I.	ten-minutes'	time	there are	3·010	per cent.	of	errors, or about	3
II.	„	„	„	3·978	„	„	„	4
III.	„	„	„	5·673	„	„	„	5·7
IV.	„	„	„	5·982	„	„	„	6

that is to say, the mistakes are springing up most in the III. ten minutes' time; the subsequent diminution of the quality of work in the IV. ten-minutes' time is very small in comparison, about one-sixth of that made in the III. ten-minutes' time.

It follows, then, that in the III. ten-minutes' time, at this stage of a child's development, the faculty of occupying himself seriously with a subject, already treated for half an hour before, is remarkably diminished, the organic material being in a high degree exhausted; it seems as if in a certain moment of the III. ten-minutes' time a relaxation of the mental intensity takes place, as if the children *unconsciously must repose;* the fact itself recalls an observation, which beginners especially can make with bodily exercise, that after some time of exertion a lassitude appears, and working farther, the sensation of weariness passes away. I do not know whether these facts are really comparable, and if so, whether it is to be wished that undeveloped children should pass through this state of weariness several times a day through many days in a series of years.

To make a similar comparison for each class would be of no great value; but the age and sex of the individuals, and the number of school-years they have passed through being different, and the whole number of them not being great—although as great as I could get it—it is of importance to see whether the general result given above is found to be confirmed by the small number represented by each class.

The following table gives the differences of figures, mistakes, and corrections between the ten-minutes' times in every class. I have marked by italics the facts supporting the general result.

Classes, Number of Individuals, and average Age.	Differences between the following ten-minutes' times.	Resulting Figures in the whole.	Resulting additional Figures.	Resulting Multiplication Figures.	Errors in the whole.	Addition errors.	Multiplication errors.	Corrections in the whole.	Addition corrections.	Multiplication corrections.
4th Girl class; 35 individuals; 11 years.	I.-II.	36	27	9	*98*	18	*80*	*42*	*25*	17
	II.-III.	*603*	*512*	*291*	*242*	36	*206*	*6*	*—11*	17
	III.-IV.	*873*	*505*	*368*	*129*	88	*41*	*34*	*21*	13
5th Girl class; 33 individuals; about 12 years.	I.-II.	*595*	*471*	*322*	*183*	*50*	*133*	*33*	2	*31*
	II.-III.	*295*	*95*	*200*	*258*	*105*	*153*	*25*	26	*— 1*
	III.-IV.	*672*	*431*	*241*	*111*	*35*	*76*	*36*	16	*20*
1st Boy class; 44 individuals; about 12 years.	I.-II.	1,160	463	697	*68*	22	*46*	*65*	16	*49*
	II.-III.	938	536	402	*96*	14	*82*	*25*	17	*8*
	III.-IV.	28	71	−43	*5*	24	*−19*	*28*	5	*23*
2nd Boy class; 50 individuals; about 13 years.	I.-II.	*2,421*	*1,147*	*1,274*	*98*	47	*45*	67	40	27
	II.-III.	*1,130*	*598*	*532*	*123*	18	*105*	*110*	*41*	69
	III.-IV.	*2,434*	*1,262*	*1,177*	*104*	39	*65*	*120*	*71*	49
All four classes together; 162 individuals.	I.-II.	*4,210*	1,908	*2,302*	*441*	137	*304*	*207*	*83*	*124*
	II.-III.	*2,966*	*1,541*	*1,425*	*719*	173	*546*	*166*	*78*	*93*
	III.-IV.	*4,007*	*2,269*	*1,738*	*349*	186	*163*	*283*	*146*	*109*

* A − before a number signifies that in the respective ten-minutes' time so many less figures (errors, corrections) have been made than in the foregoing ten-minutes' time.

On the whole, the table supports the general rule; where the augmentation of figures or corrections from the II. to the III. ten-minutes' time is lower, and that of faults is greater, than from the III. to the IV., the last two lines of each triple set of figures in the vertical column are printed in italics; where all three lines are printed in italics it signifies that the augmentation of figures (or corrections) is the smallest from the II. to the III. ten-minutes' time, smaller not only than from the III. to the IV., but also than from the I. to the II. ten-minutes' time; where all three lines in an "Error" column are printed in italics, it signifies that the greatest augmentation occurred from the II. to the III. ten-minutes' time. A minus sign signifies that the difference is a negative one.

In all cases the augmentation of faults in general, and of multiplication faults especially, is the greatest from the II. to the III. ten-minutes' time.

The most singular class is the first of the boy-classes, that is to say, the first class of the "Realschule" with respect to the figures counted, the increase going always down. I cannot find for this a quite sufficient explanation; but it is a matter of fact, that, differently from the other classes, those children form a very mingled society in their class itself, some coming from different public schools, with a different number of school years gone through before, others with private preparation of different length and intensity. I must remind you also, that only in that class was the experiment made on a Tuesday (in the other three on a Monday), and that the day before there had been four lessons in the forenoon and two in the afternoon.

The next table shows in detail, how many errors and corrections are made in every hundred resulting figures; it is seen also here—I have marked the characteristic numbers in *italics*—that the greater part (two-thirds) of the results support the general rule, though the number of individuals used as a basis is a very small one in the single classes.

Classes.	Ten Minutes' Times.	Errors in the whole.	Addition Errors.	Multiplication Errors.	Corrections in the whole.	Addition Corrections.	Multiplication Corrections.
4th Girl Class.	I.	*6·225*	4·722	*7·926*	*1·464*	*1·053*	1·930
	II.	*8·058*	5·323	*11·170*	*2·258*	*1·942*	2·618
	III.	*11·378*	5·950	*17·513*	*2·128*	*1·890*	2·961
	IV.	*11·820*	7·561	*16·757*	*2·358*	*1·779*	3·029
5th Girl Class.	I.	*4·705*	*2·892*	*6·754*	*1·982*	1·624	*2·386*
	II.	*7·131*	*4·157*	*10·407*	*2·514*	1·553	*3·151*
	III.	*10·674*	*7·086*	*14·479*	*2·586*	2·265	*2·926*
	IV.	*11·207*	*7·201*	*15·658*	*2·839*	2·426	*3·297*
1st Boy Class.	I.	*1·496*	1·334	*1·680*	*1·174*	1·091	*1·170*
	II.	*2·055*	1·679	*2·473*	*1·750*	1·330	*2·196*
	III.	*2·843*	1·777	*3·997*	*1·837*	1·523	*2·178*
	IV.	*2·885*	2·215	*3·628*	*2·116*	1·598	*2·689*
2nd Boy Class.	I.	*1·458*	1·105	*1·845*	0·923	*0·642*	1·230
	II.	*1·933*	1·665	*2·214*	1·297	*1·175*	1·424
	III.	*2·706*	1·785	*3·680*	2·026	*1·068*	2·391
	IV.	*2·952*	1·990	*3·971*	2·526	*2·242*	2·722
All four Classes to-gether.	I.	*3·010*	*2·203*	*3·913*	*1·808*	*1·045*	1·604
	II.	*3·978*	*2·767*	*5·280*	*1·776*	*1·419*	2·160
	III.	*5·673*	*3·477*	*8·039*	*2·096*	*1·697*	2·525
	IV.	*5·982*	*3·995*	*8·163*	*2·453*	*2·073*	2·871

I have calculated also the average result per individual in each class; since the results are furnished by the different classes, and the same ten minutes' time always produces a similar result in each class, I give here only the general result for all individuals:—

Ten Minutes' Times.	Figures in the whole.	Addition Figures.	Multiplication Ciphers.	Errors in the whole.	Addition Errors.	Multiplication Errors.	Corrections in the whole.	Addition Corrections.	Multiplication Corrections.
I.	*174·48*	*92·14*	*82·33*	*5·25*	2·03	*3·22*	*2·28*	*0·96*	*1·32*
II.	*200·47*	*103·92*	*96·54*	*7·97*	2·87	*5·09*	*3·36*	*1·47*	*2·08*
III.	*218·78*	*113·43*	*105·34*	*12·41*	3·94	*8·46*	*4·58*	*1·92*	*2·66*
IV.	*243·51*	*127·44*	*116·07*	*14·56*	5·09	*9·47*	*5·97*	*2·64*	*3·33*

As to the character of the writing, I could not find out which sheet of paper was used in the various periods if I mixed the four sheets of one individual.

I think it seems that the power of working rises and falls during the time of the ordinary lesson, so that it would be of use to study the question more closely.

It is a known matter of fact that well-developed healthy children are, if not sleeping, always active, both mentally and bodily; but it

is also a matter of fact that they are generally at short intervals changing their occupations, that they have a great need of bodily movement, not only of a mental one; and so on. The pedagogic desire to approach them to the ideal normality—to accustom them to a continuous occupation with one subject—is a very difficult task; and it seems to me that it is not proper to demand that the beginners should have lessons of one hour—like the elder ones—and without bodily movement between the lessons. It is possible, however, with the greater number of children to train them quickly enough so far as not to "disturb" the class, but it is a matter of fact also that a great part of the whole class does not always follow the mental exercise which the teacher undertakes, though they are "quiet." That is, on the one hand, not the right way to a healthy condition of school life; and on the other hand, it is a dangerous principle, as they are plainly taught in this way to deceive the teacher. It seems then, best not to let lessons last longer than three-quarters of an hour; and to interrupt the continuation of lessons by pauses of about a quarter of an hour so as to have the children's brain rested, the body moved, and the schoolroom air changed.

I propose the following Resolutions:—

1*st. It is desirable that the question of mental overpressure should be studied by exact experimental methods, and that school authorities should instigate experiments in that direction.*

2*nd. Until the question of overpressure has been thoroughly investigated by scientific methods, no school lesson should last longer than three-quarters of an hour, followed by a quarter of an hour's rest.*

1. *Es ist wünschenswert dass die Frage der geistigen Überbürdung auf exacte Weise durch experimentelle Untersuchungen studiert werde und dass die Schulbehörden Experimente in dieser Richtung fördern mögen.*

2. *Ehe die Überbürdungsfrage nicht ausreichend in einer modernen wissenschaftlichen Weise studiert ist, sollen die einzelnen Schullectionen im allgemeinen nicht länger als drei Viertelstunden dauern unterbrochen durch viertelstunden Pausen.*

L'Hygiène Scolaire en Belgique.

PAR

le Dr. Prof. Hyac. Kuborn, de Seraing, Liége.

Vieilles maisons plus ou moins appropriées; locaux mal éclairés, mal aérés; absence de préaux; bancs et pupitres disproportionnés; defectueux entassement du plus grand nombre d'élèves sur le moindre espace, telles étaient les conditions de la plupart des écoles primaires avant

la loi organique de 1842. Celle-ci provoqua une grande amélioration dans cet état de choses ; néanmoins, par suite du manque de ressources surtout, trop d'écoles continuèrent à laisser à désirer. Pour bien se rendre compte de l'influence des milieux et des programmes scolaires sur la santé et le bien-être des enfants, il convient de prendre pour point de départ l'année 1874, de laquelle procèdent les modifications les plus importantes apportées au régime scolaire par le gouvernement sur les rapports du Conseil supérieur d'hygiène du Royaume. Il n'est plus anjourd'hui permis aux communes d'installer un bâtiment d'écoles comme il leur convient. Les plans doivent être soumis à l'état, approuvés par lui et les édifices, après achèvement, avec le mobilier classique être reconnus conformes aux types adoptés. Les programmes et les méthodes d'enseignement ont été considérablement perfectionnés ; le niveau des études normales a été élevé et mis au point de la pédagogie moderne ; l'inspection scolaire renforcée.

Vu le court espace de temps que les statuts du congrès nous accordent, je ne puis, pour ainsi dire, qu'indiquer sommairement dans ce rapport l'influence exercée par les règlements scolaires, sur la santé des enfants, pendant la période que nous envisageons. Je ne m'occuperai pas de l'enseignement libre dont les installations et les méthodes sont soustraites au contrôle officiel. Parlons d'abord des installations.

Le choix d'un terrain convenable étant déterminé, l'école est édifiée, à la campagne, dans une position isolée, aussi élevée qu'il convient ; à la ville, elle est séparée des habitations voisines à l'abri des bruits du dehors et de toute influence nocive. Les salles de classe, construites sur voûtes ou voussettes sur poutrelles, sont, autant que possible, situées au rez de chaussée. Les façades, disposées au S.O., sont intérieurement garanties contre l'humidité par un contre-mur d'une demi brique, isolé de 5 centim. et rattaché au mur principal par des crochets en fer. Les salles sont pavées en carreaux de ciment avec lambris en bois ou en ciment à la hauteur de 1^m à $1^m.20$. Lorsqu'il y a un étage, l'éscalier qui y conduit avec paliers de 15 en 15 marches, ne peut déboucher devant une porte ou un corridor. Les marches, droites, ont en hauteur 16 cent., en largeur, 30 cent. en longueur, $1^m.10$. Les rampes sont construites de façon à empêcher les élèves de les enjamber, de passer à travers les barreaux, de glisser sur la main courante.

Il y a une salle séparée par groupe de 50 élèves. Les dimensions sont calculées à raison de $1^m.5$ par écolier, y compris l'espace à laisser pour les couloirs, l'estrade, etc. . . . . La capacité ne peut jamais être inférieure à $1^{m3}.750$ par enfant, ce qui donne une hauteur maximum de $4^m.50$. Les salles sont rectangulaires ; les murs peints en gris clair tirant sur le bleu.

Les fenêtres sont pratiquées latéralement et, autant que possible dans la direction du S.E. et du N.O. Lorsqu'il n' y a pas moyen de placer les fenêtres des deux côtés, on les établit à la gauche des élèves et l'on en perce en sus, quand la disposition s'y prête, dans le mur opposé à l'estrade. Le chiffre représentant la surface vitrée doit être au

moins égal à $\frac{1}{20}$ du nombre représentant la capacité de la salle. Enfin la partie supérieure du chassis est disposée pour s'ouvrir à volonté. Les fenêtres sont garnies de stores se déployant de bas en haut. Dans les classes du soir se trouvent au dessus des appareils d'éclairage des tuyaux fumivores communiquant avec une cheminée d'appel et activant la ventilation. Les réflecteurs sont distants de 1^{m}.40 des tables de travail pour protéger la tête contre les degrés de température.

Le chauffage et la ventilation sont combinés de façon à obtenir une température moyenne de 14° à 17° C. avec renouvellement de l'air contenu dans chaque classe au moins deux fois par heure. Le calorifère à air chaud—que nous ne recommandons pas—mais surtout les calorifères à eau ou à vapeur sont appliqués dans les grandes écoles des villes récemment construites. Ailleurs les appareils de Geneste et Herscher, et, pour les classes de petites dimensions, le foyer Toly sont recommandés Toutefois ici, comme en quelques autres points, certaines modifications ont été apportées. Mais ce sont là des détails sur lesquels il importe peu d'insister dans cet aperçu sommaire.

Les écoles possèdent des préaux distincts avec entrée séparée pour les deux sexes. Le sol est battu, recouvert de gravier. L'espace est arboré et calculé sur une surface de 4^{m}.9 par élève. Dans les campagnes un jardin de 10 acres au moins est annexé à l'école. Souvant le préau affecté aux exercises gymnastiques est couvert.

L'installation scolaire doit être complétée par des lavabos avec robinets; par un vestiaire à crochets numérotés avec cases pour les petits paniers. Enfin par des siéges d'aisances à raison de un pour 15 filles ou 25 garçons; par des urinoirs pour 15 de ceux-ci. Les siéges sont proportionnés aux âges et établis de façon à laisser visibles la tête et les pieds. Les fosses, en forme de citernes étanches, à fond concave, doivent être munies d'un tuyau d'aérage que l'on adosse à l'un des murs principaux de l'école et qui dépasse le faîte du toit le plus élevé. En tout cas les lieux sont rendus inodores par les systêmes dits à évent.

Je passe au mobilier. Les bancs et les pupîtres à distances invariables, sont à deux places, avec dossiers à hauteur des reins et appropriés à la taille des élèves, lesquels ne sont pas rangés par ordre de mérite; le bord du pupitre et le bord antérieur du banc sont dans une même verticale. L'inclinaison des tables et de 15° à 20° au dessous de l'horizontale. Un modèle particulier de pupitre a été adopté pour les filles en vue de la couture. On commence à rencontrer dans les écoles des pupitres avec supports destinés à maintenir le livre à 40° pour la lecture.

Je me hâte d'aborder la question *des programmes et des méthodes*, lesquels sont établis par les réglements: Le programme des écoles primaires comporte six années d'études. L'âge d'admission est 6 ans. Dans toutes les localités un peu importantes l'enfant a été préparé à recevoir le degré primaire d'instruction à l'école gardienne où la méthode Frœbel est pratiquée. Les matières enseignées sont a lecture courante et expressive, l'écriture, le calcul mental, le systême décimal et l'arithmétique élémentaire, la grammaire et l'orthographe, la rédaction, des notions de physique et d'histoire naturelle, l'histoire nationale, et la

géographie, le dessin linéaire et à main levée, le chant et la gymnastique. Le maître a pour mission de saisir toutes les circonstances qui se présentent dans la vie commune et scolaire pour inculquer aux élèves des notions d'hygiène appliquée. Tout enseignement systématique est proscrit; il doit être absolument intuitif de la première à la dernière année. Les exercises de mémoire proprement dits sont réduits au minimum. Des cartes murales, des tableaux, des planches, des modèles, des collections de roches, d'animaux, de plantes, de graines, de produits manufacturés, de solides, de sphères, de petits appareils de physique doivent être installés dans les écoles.

Lors de la réforme des programmes, les instituteurs, un peu déroutés, se pliaient malaisément à l'enseignement intuitif de toutes ces matières. On établit des conférences pour les initier; on adapta l'enseignement pédagogique à la méthode dans les écoles normales d'où les instituteurs sortent maintenant en pleine possession des procédés. Les résultats obtenus sont magnifiques. Les instituteurs sont très pénétrés de ce fait, que l'attention qui n'est pas sontenue chez l'enfant par la curiosité disparait promptement; qu'un travail uniforme reste infructueux lorsqu'il dépasse une heure et même ¾ d'heure chez les plus jeunes. C'est avec conviction qu'ils s'attachent à observer les programmes combinés de telle façon que le nombre effectif d'heures de classes ne dépasse pas 5 heures par jour. L'entrée à l'école a lieu à 8½ h. du matin, la sortie à 11 h. ¾. Cette attelée est coupée par une suspension de 25 min. pendant laquelle ont lieu les exercises et la leçon de gymnastique, et dont on profite pour aérer la classe. La rentrée d'après midi s'effectue à 2 h.; à 3 h. relâche de quelques minutes. La classe est levée à 4 heures. Il y a congé les après-midi des jeudis et des samedis ou mardis; quelques jours de vacances à la Noël et aux Pâques. Les grandes vacances prennent en général cours du 25 août pour se terminer le 1er octobre. Nous dirons tout à l'heure un mot des devoirs à domicile.

La gymnastique est inscrite au programme du même titre que le chant et le dessin. Des prix de gymnastique sont même accordés. Il ne s'agit point de gymnastique acrobatique ou médicale, mais de celle qui a pour but un développement général, méthodique et harmonique de toutes les parties du corps, système musculo-osseux, respiratoire, nerveux. Elle consiste en exercises libres, d'ordre, de tactique, en marche rhythmées en chantant, en jeux divers aux engins mobiles, bâtons, haltères, poids variés. Dans quelques écoles sont installées des échelles, du cordes lisses, jamais le trapèze. Les leçons sont données par les instituteurs eux mêmes qui prennent volontiers un diplôme à cet effet.

J'arrive à la seconde partie de ce rapport esquissé à grands traits, celle qui concerne les affections dont le développement est favorisé par la vie et le milieu scolaire.

Je me bornerai, ici encore, aux lignes principales.

Dans les statistiques qui relèvent les déviations scolaires, on n'a pas fait suffisamment la part des constitutions, du régime domestique des enfants, et, en dehors des médicins, les auteurs des relevés ont souvent confondu la scoliose et la cyphose. Si le régime scolaire était

seul en cause, on devrait voir les écoliers des deux sexes atteints dans les mêmes proportions. Cela n'est pas, à en juger d'après les statistiques. La scoliose proprement dite a été ou est devenue rare en Belgique. Mais nous avons rencontré plus fréquemment, la courbure à convexité postérieure, ou cyphose, à partir de l'âge de 11 et parfois de 10 ans, ce que nous attribuons aux causes qui font incliner la tête en avant dans des attitudes assises fréquentes et prolongées, pour regarder des objets de plus près, comme dans la couture surtout, la broderie, le dessin, l'écriture, le jeu du piano, etc. . . . Nous avons examiné dans des écoles d'une ville de l'arrondissement de Liège, en 1878 et 1879, un nombre de 168 enfants âgés de 7 à 12 ans, dont 101 filles et 67 garçons. Nous n'avons relevé que 5 scolioses, dont deux à un degré peu avancé; deux autres affectaient des enfants manifestement scrofuleux. Quant au cinquième cas nous devions bien le rapporter exclusivement à une attitude unilatérale gauche. Mais, à l'époque de cet examen déjà, les conditions d'hygiène, pour n'être pas strictes, n'étaient pas non plus trop imparfaites. Quoiqu'il en soit, en 1878, M. Sluys, Président de la Commission de l'école modèle de Bruxelles, voulut mesurer l'influence de l'attitude sur la scoliose. Il prit deux classes d'enfants d'un même âge moyen, ayant le même nombre d'années d'études, tous assis sur des bancs, avec pupitres également proportionnés à la taille des élèves. Dans une de ces classes l'instituteur enseigna durant deux années l'écriture penchée de haut en bas et de droit à gauche, qui s'exécute dans une station graphique unilatérale. Celle-ci est unifessière gauche; l'inclinaison de la tête à droite, un peu en avant, entraîne celle du corps. Dans l'autre classe, l'instituteur avait a enseigner pendant le même laps de temps, l'écriture droite, méthode Dierckx, dans laquelle le corps est forcé de se tenir droit. Ici, la poitrine et l'épaule se présentent carrément devant le pupitre; la main écrit vis-à-vis du milieu de la poitrine; les lettres se trouvent en face et assez nourries pour qu'il soit permis même aux yeux myopes de la suivre directement sans courber la poitrine ni fléchir la tête. Il en doit être ainsi, puisque les caractères étant presque droits, il n'est point nécessaire d'incliner la tête de l'un ou l'autre côté pour observer le parallélisme. Les résultats de l'expérience furent que dans la pratique de cette dernière méthode, il ne se produisit pas un seul cas sensible de déviation, tandisque l'exercice de la première avait amené des déviations rachidiennes à convexité latérale gauche. La méthode Dierkx a gagné du terrain, mais on se heurte dans cet enseignement non à la routine des maîtres, mais à celle des bureaucrates qui veulent l'écriture penchée.

Les attitudes vicieuses et la myopie ont des rapports immédiats. Les premières sont provoquées par la myopie et réciproquement des attitudes vicieuses résultant de la mauvaise disposition du siége et de la tablette favorisent la myopie. Ainsi pour écrire l'enfant étant obligé de se pencher, de se courber, d'incliner la tête en avant, éprouve de la congestion passive à la tête et à l'œil. Il se produit ainsi de la tension intra-oculaire, des efforts exagérés des yeux qui se rapprochent plus que de mesure des caractères; et en fin de compte, une élongation de l'œil, qui cède en arrière, c'est à dire, à son point le moins résistant. Aussi

n'est-ce jamais la face qui doit aller vers la page, mais le livre qui doit être rapproché de la face. Telle est l'importance de l'attitude dans la production de la myopie.

On comprend qu'un éclairage insuffisant ou mal dirigé détermine les mêmes effets. Or, en Belgique, dans les écoles officielles ou officiellement inspectées, les bancs étant construits dans le type que nous avons indiqué, l'éclairage, qu'il soit bilatéral ou unilatéral gauche, se faisant par des baies justement disposées en dimensions et en hauteur, les caractères des livres de classe adoptés par la Commission d'instruction étant nets, avec des lettres qui ne dépassent pas sept par centim, courant, avec des intervalles suffisants entre les mots et les lignes,—il n'y a rien de surprenant que la myopie soit devenue relativement rare.

De 1886 à 1888, j'ai examiné à ce point de vue spécial, 107 écoliers de 9 à 13 ans, je n'ai rencontré que deux cas de myopie bien caractérisées, sept de myopie faible. Mon collègue le docteur V. Desguin, d'Anvers, a constaté sur 1,500 enfants une situation non moins favorable. Dans nos campagnes la myopie est toute exceptionnelle chez les écoliers. À l'école normale supérieure de l'État, à Liége, l'examen des yeux de 115 étudiants, âgés de 17 à 20 ans, qui se sont présentés aux épreuves d'entrée au sortir de l'Athénée, soit après 12 ou 13 années d'études primaires et moyennes préparatoires, nous avons trouvé :—

A vue normale, 70 étudiants.
„ hypermétropie, 6 étudiants.
„ myopie { myopie faible 21 ; „ moyenne 14 ; „ forte 4 } 39.

Je ne dirai que deux mots de la chorée. Pendant une période de cinq années, 1867 à 1872, j'ai tenu une note exacte des maladies et de la constitution des écoliers, soignés tant à mon cabinet qu'à domicile. Sur 371 jeunes patients, je relevai 15 cas de danse St. Guy parmi les filles, 3 parmi les garçons. A partir de cette époque, la gymnastique fut instituée dans les écoles de la ville. Eh ! bien, en quinze années, avec un chiffre d'écoliers beaucoup plus considérable et un nombre plus que triple d'enfants examinés, je n'ai pas constaté plus de choréiques que pendant le quinquennal sus indiqué.

J'aborde la question controversée du surménage. J'entends par là une excitation soutenue dans l'exercise exagèré d'un organe ou d'un appareil et qui le conduit à la fatigue, puis à une exténuation à laquelle succède la déchéance fonctionnelle. Il en va ici du cerveau comme du muscle, avec ceci en sus de l'action organique, un processus psychique : l'attention. Par l'attention il y a effort et cet effort congestionne le cerveau. Dans le jeune âge surtout, ces congestions ou hyperémies prolongées, ces troubles dans l'innervation vasculaire aboutissent à la langueur circulatoire, et, comme conséquence finale, à l'anémie du cerveau, à l'arrêt de développement des cellules de l'écorce, suivi de l'inertie et de l'étiolement des facultés. La culture intensive du cerveau, les études précoces portent, à côté des troubles psychiques, des retentissements dans les organes de nutrition ; des orages dans l'établissement de la puberté chez les fillettes et, en général, un élanguissement nutritif qui

favorise le développement de la phthisie pulmonaire chez les débiles, chez les prédisposés. De tels effets se marquent rapidement quand les écoliers se trouvent chez eux dans des conditions de milieu et d'alimentation insuffisants, exposés en sus à conserver l'attitude défectueuse qu'imposent des devoirs à accomplir dans une mauvais éclairage, sur des tables et des siéges disproportionnés.

A première vue le programme d'enseignement primaire que j'ai rapporté, paraît encyclopédique. Il n'en est rien. L'enfant met 6 ans au mimimum pour le parcourir, et il le fait aisement si le maître procède par la méthode intuitive ainsi que cela se pratique dans nos écoles officielles. Les causes les plus actives du surménage, que plus correctement il conviendrait de désigner par le mots d'exténuation cérébrale, résident dans la surcharge de devoirs à domicile. Il est spécialement recommandé aux maîtres de ne pas donner aux enfants de devoirs proprement dits avant l'âge de 9 à 10 ans, et de les limiter à de courtes applications, à des amplifications de ce qui a été expliqué en classe; de toujours laisser à l'enfant un temps suffisant pour les exercises et la promenade. Ce qu'on observe parfois encore c'est, plutôt que du malménage, du malménage résultant d'une mauvaise interprétation des programmes, ce qui d'ailleurs devient exceptionnel grâce à l'excellente organisation des écoles normales et à l'intélligente surveillance des inspecteurs. Ou bien de l'organisation défectueuse des concours annuels des différentes écoles entre elles. Ainsi voit-on, quelques semaines avant l'entrée en lieu, les maîtres entrainer leurs élèves, par des devoirs et des leçons extraordinaires, une entassement dans la mémoire de formules et de mots, un chauffage à haute pression de l'intélligence des élèves, tout cela en vue de succès d'amour propre que poursuivent ces maîtres. Faisons observer toutefois que cette période d'échauffement est heureusement de courte durée, et qu'il suffirait de modifier l'organisation des concours pour mettre toutes choses dans l'ordre. Le surménage existe plus manifestement dans l'enseignement moyen à ses différents degrés et dans l'enseignement supérieur. Quant à ce dernier, du moins il n'y a lieu d'accuser ni les programmes ni les professeurs. On ne voit que trop souvent en Belgique, dans la chasse aux diplômes qui ouvrent l'accès aux carrières, des jeunes gens aborder les études supérieures sans préparation suffisante; d'autres, au lieu de faire à chaque jour sa tâche, laissent s'accumuler le travail et s'efforcent d'accomplir en quelques semaines l'œuvre d'une année entière. Mais ici il ne s'agit plus d'enfants dont la structure du cerveau est en voie de développement, mais d'adultes où elle est achevée. Aussi pour être sérieuses encore, les altérations dues au surménage sont elles ici plus aisément curables que dans les cas d'arrêt de développement. J'ai traité ces points en détail dans les XLVI[e] et XLVII[e] leçons (pp. 1104 à 1156) de mon *Cours d'hygiène générale et pédagogique.* (Bruxelles, St. Manceaux, 1891.)

Dans l'exposé qui précède nous n'avons considéré que la part d'action que la loi attribue au Gouvernement. Elle a laissé à la surveillance des municipalités ce qui intéresse plus directement la salubrité courante des locaux et la santé des écoliers. C'est une lacune, car les principales villes ont seules organisé une inspection médicale scolaire

officielle. Celle-ci a pourtant donné des résultats merveilleux. Les écoliers sont dès leur admission soumis à un examen somatique qui est périodiquement répété. Le médecin inspecteur visite régulièrement chaque mois, et toutes les fois que les circonstances le réclament, les locaux et les élèves. A Bruxelles, notamment, les faibles, les porteurs de quelque prédisposition morbide sont gratuitement l'objet d'une médication préventive. Ainsi le Dr. Janssens relevait en 1877–78–79, que de 1890 écoliers qui avaient été soumis à ces mesures, ont été bien guéris 278, améliorés 728; résultats moins sensibles ou inconnus, 844. Du côté des dents, on a rencontré 2,885 écoliers porteurs d'affections ou de vices divers auxquels il a été remédié dans toute la mesure du possible. Depuis 5 ans, profitant des récents exemples donnés par la Suisse l'Autriche, l'Allemagne, les villes de Bruxelles et de Liége ont organisé des colonies d'élèves en vacances. On soumet les enfants à un examen anthropologique minutieux, et l'on choisit les plus débiles pour constituer la colonie. Les gains obtenus en poids, en taille, en circonférence thoracique et capacité vitale ont confirmé tous les résultats constatés à l'étranger. Aussi le procès des colonies scolaires est-il aujourd'hui gagné haut la main en Belgique.

Récemment la ville de Liége a institué les bains scolaires dans une des écoles de natation situées sur la Meuse. Jusqu'au mois d'août dernier on avait relevé 5,832 bains pris par les garçons, 3,658 par les filles. Parmi ces baigneurs ne sont pas compris les élèves des écoles moyennes, ni des collèges. La balnéation est facultative, mais le nombre de jeunes baigneurs n'a cessé de croître.

Disons pour terminer que l'introduction de certains travaux manuels dans les écoles de garçons, est à l'ordre du jour en Belgique.

En résumé :—

Les conditions des milieux scolaires, aération, chauffage, éclairage, bancs et pupitres adaptés ; l'emploi de la méthode intuitive dans l'enseignement, la variété de celui-ci; un nombre d'heures de leçons en rapport avec l'âge des élèves et interrompues par des relâches consacrées aux exercices et à la gymnastique méthodiquement enseignée, des devoirs limités ; une inspection pédagogique expérimentée, des instituteurs intélligents et bien dressés, tout cela a fini par annihiler chez les enfants les dispositions aux déformations de squelette, à la myopie, à enrayer le surménage, à amener une état de santé générale favorable en diminuant les dispositions à la chlorose, à la scrofule, à la tuberculose.

Si l'état, au lieu de l'abandonner aux communes, prenait en main l'inspection médicale scolaire la Belgique pourrait s'applaudir d'avoir realisé ce but suprême de la pédagogie : developpement parallèle du corps et de l'intelligence des enfants.

Some of the Laws which influence the Growth of the Child.

BY

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In this paper I propose to consider the several laws which influence the form and structure of the skeleton of the human subject, in order that, by a knowledge of them, we may be able to determine the best means by which, especially during the period of development, we may improve the physique of our fellow creatures, and so, by diminishing much of the existing misery which is due largely to debility and consequent disease, enable them to compete more successfully in the struggle for existence.

The human organism is obviously evolved from a lower type in consequence of progressive alteration in the mechanical relations of the individual to its surroundings.

The shape and structure of the bones, joints, and muscles, the length and character of the alimentary canal, and the proportionate sizes of the several solid viscera are influenced solely by mechanical factors. The increased size and complexity of even the most complicated solid organ—the brain—is but a natural outcome of varying mechanical relationships, since the necessity for more complex muscular movements requires a larger development of ganglion cells, both motor and sensory, and the intellectual area is of necessity developed to meet the more difficult relationships to surroundings which result from the progressive evolution of the individual.

The causation of these changes appears to be as simply mechanical as the variations in the form and number of the teeth which result from the altering character of the food. Some corroborative evidence of this is afforded by measurements of horizontal sections of skulls I made some time ago, when I found that the left side was, in most cases, more capacious than the right, while, in two left-handed workers, I made out a greater capacity in the right side. Many of the variations in the symmetry of the skull, especially in the labouring classes, are, however, very probably due to other mechanical factors, namely, alterations in the normal position of the head, due to labour or to position of body, new functional adaptations of the head, as in carrying loads, &c., all of which render the detailed explanation of the causation of such variations in measurements most complex and difficult.

As a proof of the purely mechanical causation of the varying forms of bones and joints in man and in the lower animals, I would point to the most remarkable deviations from the normal form which the human bones and joints develop when the mechanical relationships of the individual to his surroundings are accurately determined, or, so to speak,

fixed, during the greater part of his lifetime, and thus differ from those of what is called the normal individual. I allude to the characteristic and, in a sense, extraordinary deviations from the normal which the shapes of the bones and the mechanisms of the joints of labourers present, their form and mechanism differing from those of the normal infinitely more than those of the average or normal man differ from those of the higher ape.

A very important point in relation to these alterations in the forms of bones and joints is the question of the transmissibility of the acquired form to the offspring. It seems to me to be perfectly obvious that a large proportion of the variations from the normal which are acquired during the lifetime of the individual are transmitted. How far, however, the peculiar form of the bones and joints in such labourers as the sailor, shoemaker, coal-heaver, &c. is transmitted, is more difficult to determine; but I take it that, so far as the muscular and skeletal arrangements are concerned, this transmissibility is the prime factor in evolution.

I would sum up the preceding arguments in the following concise statements:—(1.) Not only do the forms of the bones of the human skeleton vary with such movements as are performed habitually, or with such routine attitudes as are assumed by the vigorous individual, but so also do the details of the structure and the functions of the several joints. (2.) If an individual is habitually engaged in performing a certain movement or sequence of movements of activity, the form of skeleton varies from the normal in a degree which is proportionate to the length of the period during which the movement has been performed and to the amount of energy expended in the act. During a single performance of the attitude of activity there are present numerous tendencies for the bones and joints to undergo changes in form. The constant repetition enables the tendencies to become actualities. The earliest variation from the normal consists in the fixation of the physiological attitude which is normally assumed during the performance of such a movement of activity, while the latter conditions are exaggerations of the same attitude, due to changes in the bones and in the intervening soft structures. In other words, the peculiar character of the anatomy of the labourer is, first, the fixation, and subsequently the exaggeration of a normal physiological attitude of activity. These changes are all further exaggerated if developed during the period of active growth of the organism. (3.) It is highly probable that a certain proportion of the acquired variations from the normal structure of the skeleton are transmitted to the offspring if it be begotten after their mature development. This is likely to be more marked where the same unvarying and precise mechanical relationship of the individual to his surroundings continues through several generations, or, in other words, when the same occupation is pursued by several generations in sequence.

I would next call attention to the results of assuming constantly resting postures and of avoiding exercise when it is seen that as the acquired deformities of the labourer are, first, the fixation, and later the exaggeration of normal physiological attitudes of activity, so the acquired

deformities of feeble youth are, first, the fixation, and later the exaggeration of normal physiological attitudes of rest. The feeble atonic child is, for all practical purposes, an organism whose mechanical relationship to its surroundings is fixed, unvarying, and precise, and the conditions which result from this relationship, an experiment which is being made by nature for us on an immense scale, afford undeniable corroborative evidence of the statemends already made. I will summarise them briefly in the following sentences:—(4.) For the so-called normal condition of the skeleton it is necessary that during growing life the individual shall combine attitudes of activity with attitudes of rest, and that the attitudes of activity as well as those of rest shall be varied in character. By an attitude of rest is meant a position in which the superjacent weight is transmitted through a joint or combination of joints with a minimum of expenditure of muscular energy, the form of the bones and the ligaments sustaining the chief strain, the muscles in many cases performing only the passive function of a ligament. (5.) During the period of a single assumption of an attitude of rest there exists tendencies to change, both in the form of the bones and of the joints. (6.) In the young subject the rate of growth of any portion of an epiphysial line varies inversely as the amount of pressure it transmits. In other words, if one half of an epiphysial line transmits habitually an amount of pressure which is greater than normal, the amount of bone which it develops is correspondingly less than that normally produced. If, on the contrary, the other half of the epiphysial line is subjected habitually to a subnormal pressure, the amount of bone developed by it is proportionately greater than the normal. In all the resting postures the mechanism of the skeleton is such that one portion of a growing line is exposed to an abnormally great amount of pressure, while another portion is exposed to a much less or even subnormal amount of pressure. The frequent assumption of a single attitude of rest, not corrected by suitable variations in the attitudes of activity and rest, results finally in a progressive alteration in the form and function of the bones and joints. It is obvious that when these changes have advanced to any extent they cannot be obliterated by treatment, the original form of the skeleton being lost for ever. This law has a most important bearing on the evolution and treatment of acquired deformities. (7.) The more vigorous and robust the child the less likely is he to assume attitudes of rest for any time, while the feeble-bodied and frail is but little disposed to expend his scanty muscular power in activity, but prefers to assume such easy postures as make as little demand as possible upon his store of energy. (8.) The particular variety of resting posture varies to some extent with the age of the individual and with his surroundings. (9.) The density of the osseous system, together with the firmness and fit of the joints, vary directly with the muscular development and vigour of the individual. (10.) The rate of growth of bone in an epiphysial line is influenced more rapidly by abnormal pressure in the feeble and atonic than in the vigorous and robust. This is still more marked in exaggerated conditions of malnutrition, as, for instance, rickets. (11.) As the carrying of heavy loads habitually by the vigorous growing child results in a general diminution of his stature,

partly by a diminished formation of bone of a very dense character and partly by the compression of the soft structures which intervene between the bones, and especially between the bodies of the vertebræ, a short powerful structure resulting in the adult; so in the feeble, and especially in the rachitic child, the weight of the several portions of the body transmitted through its epiphysial lines results in a general diminished bone formation and in a considerable diminution in the stature. This is to a certain extent beneficial to the ill-nourished individual, since the nervous and vascular systems are able to work a shorter body with a smaller expenditure of energy than a taller one. I believe that the very small average stature of the poorer classes is due to one or other of these causes.

I may here say a few words about rickets, since it involves the following important hypothesis about which there will be doubtless much difference of opinion:—(12.) When the organism recognises that a certain development of or variation in its structure becomes advantageous or necessary to the better performance of its functions, or, in other words, when the mechanical relationships of the individual to its surroundings are such that certain tendencies exist to the formation of a perfectly new mechanical arrangement, or to the alteration of a pre-existing one, such a change is evolved to a greater or less extent. (I would illustrate this by the formation of the accessory occipito-atloid articulation in the shoemaker, as well as by the innumerable changes in the joints of labourers.)

Rickets is a condition solely dependent upon impaired nutrition, and in the large majority of cases it is due to excessive, unsuitable, and frequent feeding, not to an insufficient quantity of food. In other words, it may be described as the result of chronic indigestion of young life, and may be and frequently is acquired on a diet of breast milk only. Its frequency among our population is lamentable, and depends solely upon a want of knowledge of the most simple rules of diet. An infinity of benefit to the race would result from the thorough instruction of young girls in the manner that children should be fed, an ignorance of which is by no means limited to the lower classes.

Now in rickets we have to deal with an organism whose tissues are ill-nourished, and whose capacity for forming reparative material, or for remedying the imperfect condition of its textures, is much impaired Bone is formed hastily and badly by the epiphysial lines and periosteum, and the organism, recognising that the several portions of the skeleton are not strong enough to perform their various functions, produces a rapid deposit of soft almost decalcified bone by the periosteum, especially along the concavities of developing curves.

As the brain is the structure whose security is of the most vital importance to the organism, it causes the very much greater formation of imperfect bone upon the outer surface of the skull. This effort to render the brain as secure as possible is seen also in osteitis deformans, but even to better advantage in mollities ossium, a condition whose causation is somewhat similar to that of rickets.

In mollities, although the condition of nutrition is so impaired that the bones of the trunk and extremities are reduced to a very coarse

cancellated structure or to thin shells, yet the organism has utilised for the thickness and strengthening of the soft brain-case every bit of the imperfect reparative material which it has in store. To put this more pointedly, I would state that:—(13.) The organism is able to recognise and differentiate the varying importance of the mechanical requirements of the several portions of the body, strengthening the developing concavities of long bones, and so attempting to oppose their changing, forming, and sheltering one organ rather than another, even at the expense of other organs and structures.

It is, however, highly probable that the rapidly formed periosteal callus about the skull cap in rickets interferes materially with the perfect development of the brain. It, together with other conditions resulting from imperfect nutrition, produces, besides the other deformities, a condition of head and face which is far from being beautiful, a matter which is obviously of very great consideration in the case of female children especially. (14.) In the non-rachitic child, however feeble he may be, the diaphyses of the bones do not change their form materially other than by the abnormal rate of growth of the epiphysial lines. (15.) In the rachitic, besides a still further exaggeration of the varied rate of growth of the epiphysial line consequent upon habitual assumption of resting postures, the diaphyses yield to the tendencies to undergo change in form in proportion to the degree of rickets present.

The several acquired deformities which develop during growing life are dorsal excurvation, lateral curvature, flat foot, and knock knee.

Dorsal excurvature, is, first, the fixation, and later the exaggeration of a symmetrical posture of rest, and consists chiefly in an exaggeration of the dorsal curve and in a diminution of the conjugate of the brim of the pelvis.

Lateral curvature is, first, the fixation, and later the exaggeration of an asymmetrical posture of rest, the pelvis being rotated around an oblique axis in a horizontal plane. This produces a rotation of the superjacent bodies around an axis of varying obliquity in the same plane, the degree of obliquity being influenced to some extent by the elasticity of the fibro cartilages and the lateral connexions of the spine.

Flat foot is the fixation of the foot in its physiological attitude of rest—namely, of abduction.

Knock knee results from the abnormal rate of growth of the several parts of the epiphysial lines of the femur and tibia consequent upon the prolonged assumption of an attitude of rest.

In the rachitic infant the condition called rickety spine, a more or less abrupt posterior curve which results from the constant flexion of the thorax upon the pelvis due to weakness, is associated with a considerable diminution of the conjugate of the pelvic brim, a deformity of much importance to the female child.

If the child becomes rachitic before it has learnt to walk, bow legs result, if after, knock knee is developed instead.

Before ending this paper I would suggest that, to meet the rapidly progressive deterioration of the people, especially in and about the large towns, before a woman is permitted to engage in an occupation entailing the care, feeding, or supervision of infants or young children, or before

she be allowed to marry, she shall be obliged by law to show that she possesses a satisfactory knowledge of the general physiology, diet, and hygiene of infancy. Amongst other things that might be done, I would include the punishment of those who advertise and sell such so-called infants' foods as are extremely deleterious to the health of the child.

It seems reasonable also that those who are engaged in the education of youth in day schools or boarding schools should be thoroughly familiar with the physiology of the skeleton, and that the State should require from them some guarantee of the possession of this knowledge, which is only second in importance to that which should be possessed by those having the care of infants and very young children.

DISCUSSION.

Monsieur A. Féret (Paris) dit :—Je sollicite de votre bienveillance quelques instants d'attention, afin de vous présenter une table de travail destinée aux écoles et de vous exposer les avantages qui peuvent résulter de son emploi.

Permettez-moi d'abord de vous faire remarquer que dans les salles d'étude, les tables actuellement en usage sont de même hauteur. Cependant, les élèves sont de taille différente, quoique l'âge soit à peu près le même ; de là une gêne pour beaucoup d'entre eux dont la taille n'est pas à la hauteur de la table qu'ils occupent, selon qu'ils sont trop grands ou trop petits.

Sont-ils trop grands, ils doivent forcément se courber, se pencher sur leur livre ou sur leur cahier, et s'appuyer sur le bord de la table.

Cette pression amène de graves désordres dans les organes de la poitrine, de même que la position courbée occasionne la rondeur du dos et fatigue la vue.

D'un autre côté, les élèves de petite taille sont gênés pour écrire.

La table que j'ai l'honneur de présenter au Congrès vient, il me semble, obvier à ces inconvénients par son élévation facultative permettant à chaque élève, à mesure qu'il grandit, de fixer le pupitre à sa taille.

Vous pourrez en juger, car j'ai cru utile d'apporter un modèle pour la démonstration du système.

J'espère, Messieurs, que vous serez convaincus de la bonne tenue que l'on peut obtenir chez les enfants, lorsque j'aurai indiqué les différenter positions que l'on doit, selon moi, leur faire observer en classe.

La position sédentaire des écoliers toujours assis pendant la durée de leurs études, a paru regrettable à beaucoup d'hygiénistes, et il a semblé que les travaux debout amèneraient une agréable diversion et viendraient rompre la monotonie des études.

Je n'insiste pas sur ce point et je vous laisse à juger, Messieurs, de l'utilité de l'adoption des travaux alternés, assis et debout, que la hauteur donnée à la table à élévation facultative vient faciliter.

Ne vous semble-t-il pas que le développement physique de l'enfant serait une heureuse conséquence de cette méthode ?

Pour les enfants dont la vue est faible, et pour ceux qui sont atteints de myopie, j'ai créé un modèle dont le pupitre s'incline à volonté, avec facilité de le rapprocher plus ou moins, selon la force de leur vue, afin de leur éviter ainsi de se courber. Ces tables sont à une seule place. Leur banc est indépendant, de sorte que le balayage et, au besoin, le lavage sont facilités dans les classes. J'espère, Messieurs, que vous apprécierez

les avantages hygiéniquesde ce système et que le Congrès international d'Hygiène et de Démographie voudra bien s'y intéresser.

La Société d'Hygiène de l'Enfance à Paris, dont j'ai l'honneur d'être membre, m'a délégué auprès de vous, Messieurs, afin de vous assurer de ses sentiments bien sympathiques envers le Congrès dont elle suivra attentivement les opérations.

Dr. Kotelmann sagte:—Die Anbringung von Fenstern an zwei gegenüberliegenden Seiten des Schulzimmers, wie sie in Belgien üblich ist, kann zwar für die Ventilation sehr förderlich werden, auch zur Verbesserung der Beleuchtung wesentlich beitragen, ist aber für die nördlicheren Länder im allgemeinen weniger zu empfehlen, da die Heizung dadurch bedeutend erschwert wird. Namentlich in frei gelegenen Landschulgebäuden mit bilateraler Beleuchtung ist die Temperatur während des Winters nicht auf die erforderliche Höhe zu bringen.

Bei der Angabe Dr. Kuborns, dass die Scoliose in Belgien seltener als in Deutschland und der Schweiz vorkommt, ist zu bedenken, dass die Zahl der gefundenen scoliotischen Kinder sehr wesentlich von der Untersuchungsmethode abhängt. Die blosse Okularinspektion ergiebt eine geringere Ziffer, als wenn empfindliche Instrumente, wie das von Dr. Schenk in Bern konstruirte, bei der Untersuchung angewendet werden. Auch bei der Okularinspektion kann man einen mehr oder weniger strengen Maasstab anlegen und so verschiedene Resultate erhalten.

Dr. Gladstone said: These three papers all illustrate the application of exact observations or experiments to the determination of those important questions which are discussed by educationists. The tabulated observations of Dr. Burgerstein are not sufficiently numerous to warrant the plotting of a cure, but they point out the right method, and indicate that a "lesson" should not be synonymous with an "hour," but that the time should vary probably according to the sex and age of the children, as well as with the circumstances of their homes, and, of course, with the nature of the study. The weariness from continuous mental work is relieved by short rests, or by varied occupations. The observations of Dr. Kuborn are another effort to determine the effect of lessons; and if the development of the bony skeleton is so much affected by circumstances, as Mr. Lane has shown, how much more may we expect that the means of healthy development of the brain is an important subject for careful scientific inquiry?

Dr. Leo. Burgerstein (Vienna) said, I would like to say a word in reply to two remarks concerning my experiment. As to the number of children, I had intended to make the experiment apply to about 10,000 children, but I could get permission to examine four classes only. As to the pauses of five minutes between the 10 minutes' periods of work, I chose these periods of rest because I thought in this way to make the experiment resemble the ordinary school lessons. In the ordinary school lesson the teacher must dictate the additions, and this furnishes the only kind of interruption; in my experiment the children were obliged to work for 10 minutes without *any* interruption; it was for that reason that I thought to make the experiment more like the ordinary lesson by giving short rests between each 10 minutes' work. Though the basis is a small one, it will not be forgotten that the very small numbers in the single classes mostly tend in the direction of the general result.

The Resolutions proposed by Dr. Leo Burgerstein, having been seconded by Dr. Gladstone, were then carried.

Physical Education.

BY

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The subject of physical education, especially in elementary schools is one which, within the last few years, has attracted much greater attention than formerly; and this increased attention is one among many other phenomena indicative of the change which in the last decade the meaning of the word education has undergone. For, whereas in days gone by education meant the cramming or acquiring of a given quantity of mere information, it now has a much more extensive and developed meaning, both as to what it connotes and what it denotes. At last educationists are beginning to realise the natural interdependence of bodily and mental functions, and the consequent necessity of creating perfect physiological and psychological conditions in order to conduce to the harmonious working of the various parts of the human system and its functions, and to produce the maximum of result with the minimum of effort; or, in other words, that the educational efforts of the individual should be attended with the maximum of pleasure and the minimum of pain.

The Education Department has lately given an impetus to this greater attention by introducing into its Code an article which recognises the utility of apportioning some period of the school time to instruction in some form of physical education by allowing such instruction to be included in the ordinary time-table of the school. Art. 12 (*f*) of the Code of Regulations in 1891, *for the first time*, provides that "in "making up the minimum time constituting an attendance may be "reckoned time occupied by instruction in suitable physical exercises "and military drill."

And such bodies as the National Physical Recreation Society, the German Gymnastic Society, the Swedish Gymnastic Society, the National Union of Physical Training Teachers, and other organisations of the kind, with their consequent rivalries, are similar indications of a wave of thought passing over the country in favour of attention being given in various ways to physical as distinct from intellectual development.

The term physical education, used as denoting a subject for school instruction, has not such a wide meaning as when used generally. Its object in the former sense being partly to secure the best conditions for mental effort by promoting the best physical conditions, it includes such instruction as leads to uniform and harmonious development of the whole body of the individual child, with due regard to his physical idiosyncrasies, or any accidental or abnormal characteristics which may differentiate him from an ordinary generic child living under normal conditions. It does not include such specific or extraordinary exercise

and education as leads to the powerful arms and shoulders of the rower, legs of the runner, body of the pugilist, or the mighty physique of the professional athlete, nor anything that develops acrobatic aptitudes. Its limits, therefore, with respect to the school, and the conditions for its healthy prosecution, can be easily defined and formulated.

One of the greatest difficulties that a teacher has to deal with in the management of young pupils is the desire for change, and the natural predisposition to physical activity which always accompany infancy and early youth. The skilful teacher is he who knows how to utilise these most advantageously to make the school life of his pupil happy and interesting. The time selected for physical exercises should not be so close to the time for meals as to create any undue strain or any antagonism between the physical functions involved in digestion and those concerned in mere physical exercises as such, nor so placed in the time-table as to cause any antagonism between physical and cerebral functions. Probably a period midway in the time apportioned to mental subjects would be the best to allot to them. And inasmuch as practice and instruction in such exercises as can be taught to pupils between five and fourteen involve a certain amount of free movement for all parts of the body, and necessitate standing in a more or less erect posture, it would be best to arrange it in some part of the time-table preceded and followed by lessons which require sitting; otherwise weariness, lassitude, and undue strain and effort would result. It need hardly be pointed out that the healthy prosecution of physical education requires the best atmospheric surroundings. A lesson on physical exercises ought if possible to be given in the pure open air, of course with proper regard to temperature. A large shed in the school playground would be useful for the purpose, or a large hall in the school itself. The structure of a school, therefore, cannot be said to be perfect unless it includes one of three things: (*a*) A large shed, open at the sides, in the playground; or (*b*) a hall in the school, well lighted and ventilated, to which each class can be drafted in turn; or (*c*) plenty of floor space in each class room, unencumbered by desks, well lighted and ventilated. This latter, however, which is suggested as an undesirable alternative when there is no other, makes it almost impossible for any exercises involving marching or change of position to be practised.

Apart from its mere general hygienic results, the advantages attendant upon the teaching of physical exercises as a school subject are manifold. As a great mechanical help to school discipline it is invaluable, partly on account of the habits of ready obedience and attention to the commands and wishes of the teacher which it engenders, and partly as affording the means of securing a variety of posture and attitude to satisfy the demands of that vitality and activity which the young, under natural conditions, always exhibit.

The indirect effects it has are equally inestimable. Its aim, and result too, if properly taught, being to make children healthy and well developed, exercising in turn each separate part and function of the human body, it powerfully counteracts any hereditary predispositions to disease which may be present, and minimises their injurious tendencies.

This can perhaps best be illustrated by a series of exercises designed for the expansion of the chest and shoulders. Their hygienic effect must be at once obvious.

The object of teaching physical exercises in schools being partly to secure rest and diversion from intellectual toil and partly to make children healthy and to secure the maximum of their bodily development, it seems that they cannot be taught at too early a period in the school age, which is taken for practical purposes, as mentioned before, to be from five to fourteen. In the *infants'* school, exercises simple in character, but designed to afford development in turn to each part of the body, should be taught. Here, if at all, appears to be the only place where musical accompaniment to the exercises is desirable. For very young children such accompaniment may help towards precision of movement, and the rhythmical sounds and the pleasure resulting from sweet melodies or harmonies may add to the recreative character of the lesson. In schools for older boys and girls, however, it is doubtful, I think, whether such musical accompaniment should be encouraged. There certainly cannot be two opinions as to the undesirability of allowing children to whistle and sing their own accompaniment, which I understand to be the method with some systems, while practising physical exercises. In *girls'* schools a little reform in the matter of dress is requisite for the healthy performance of such exercises as ought to be taught. Without going into details, each part of the girl's dress should be so arranged as to allow of free unconstrained movement of the muscles and the limbs. Probably the kind of exercises taught to *boys* at school ought not to vary greatly from that taught to girls. The main object with girls, however, being to secure regular development and harmony of form; while, with boys, this being a secondary object to the promotion and general diffusion of muscular strength and to their proper equipment to discharge their duties as useful citizens, in the highest classes physical exercises may be localised and specialised with respect to their future and prospective callings. The average physique and stamina of a boy being greater than that of a girl, probably the exercises may be of a little more violent nature, and practised for a longer period than in the case of girls. Military drill ought undoubtedly to supplement the ordinary physical exercises for boys. It teaches them to walk in a regular step and manner better than any other form of physical exercises; accustoms them to grouping and forming ordered masses, and indirectly shows them the value of co-operation and the necessity and advantages of discipline.

It will be gathered from the foregoing remarks that a typical lesson on physical exercises should embrace one or more movements for each part of the body, first of a simple character, and then graduated up to more difficult and complicated ones. The length of time necessary and desirable should be sufficient to afford recreation and relief from the intellectual labour involved in the lessons preceding and following, but should not be so long as to produce weariness and fatigue, which may be as injurious as indigestion. Individually weak pupils may, therefore, require special attention. But what should be aimed at is that there

should be proper moderation and frequent repetition of the exercises. The aim and object of the exercise should, so far as the pupil is capable of understanding them, be taught with each exercise; and for this purpose a technical and scientific knowledge of physiology and anatomy is required on the part of the teacher.

In the training of teachers, therefore, for instructors in physical exercises, there should be careful study of the human frame—of the different systems which go to make up its structure, their interdependence and inter-action one upon another. With each branch of theory there should be its practical application to physical education and physical exercises. When, for example, the physiology, anatomy, and functions of the leg are being studied, particular exercises designed to develop the leg and make the performance of its functions easy and natural should be practised.

In the Swedish system of exercises, which probably has been elaborated more than any other, there are different sections devoted to—1. Pedagogic gymnastics; 2. Military gymnastics; 3. Medical gymnastics. In each branch the exercises are selected, and their order formulated to promote the immediate object in view, physiological and anatomical research and study forming the basis, and the theory and practice being taught side by side, whichever course is undergone.

The physical exercises or gymnastics suitable for the school are, of course, different from those practicable for the period of adolescence or for the adult. Exercises with apparatus involve more or less severe strain, and this severe muscular effort may seriously affect the development of the young subject. On many other grounds, too many to be here given and explained, the use of apparatus by children at school is to be deprecated, the aim with regard to them being "not at localising the "muscular effort over a limited region, but, on the contrary, to generalise "it by distributing it over a large number of muscles at the same time—"not to induce fatigue quickly, but rather to bring all the functions into "greater activity." As to the mechanical adjunct of musical accompaniment, it, no doubt, adds an element of recreation and pleasure to the exercises, especially to young children, but in elementary schools it is problematical whether it should be insisted upon for older children.

The evils consequent upon the absence of a systematic and universal provision for instruction in physical exercises are no doubt minimised, and have been prevented from obtruding themselves on public attention, by the practical outcome of that desire for activity and natural necessity for exercise which every healthy human being, whether youth or adult, instinctively and spontaneously feels impelled to in the shape of games and sport. Any organised system of physical exercises should be used as a supplement, and not as a substitute, for games. On the other hand, many games may be utilised so as to afford subject-matter for the practical application of the elements taught in physical exercises. One of the best of such practical applications is swimming, the movements in which bring into action, perhaps, more of the muscles of the body than any other form of exercise. Its value, therefore, estimated as

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a subject of school instruction, and as a branch of physical education, apart from the skill and bodily dexterity which it involves and the material advantage resulting therefrom, seems to me to be incommensurable. It affords subject-matter for a kind of counterpart of physical education on land; and no child can be said to have a complete physical education until it has been taught how properly to use its limbs and how to exercise all its muscles both in the water and out of it. No school, therefore, can be said to have its educational machinery complete unless it includes in it ample accommodation for the teaching of all its children how to swim. The London School Board has lately recognised this by resolving, wherever proper public bath accommodation available for the purpose of instruction in swimming is not provided, to build in its new schools swimming baths, in order that all the boys and girls attending its schools may have their education complete in this particular. But much has yet to be done to secure that physical education should be more general than it is. Its aim in schools is hygienic and not skill; and if the discussion of it and its value from this hygienic point of view by this Congress leads to an education of public opinion in this country in its favour, much will have been done to secure its recognition as a proper subject in every school curriculum throughout the land, and to remove from us the reproach, to which we are justly liable, of being far behind other countries in the absence of proper attention being given in our schools to this important subject.

[Exercises in illustration of the different parts of the paper were performed by a class of girls from the Montem Street Board School, Finsbury, under the direction of Miss E. R. Allison.]

Physical Exercises in Elementary Schools: A part of the School Hygiene.

BY

Allan Broman.

Attention has lately been drawn to physical education in schools, and much has been said and written on the subject. Medical men and the general public began to take it up; schoolmasters, often resenting any reform in the standing regime of the school, have followed; and at the present day there is scarcely any other subject which is so conspicuously brought forward as this. At the same time, I venture to say, there is scarcely any that is less satisfactorily treated. Once a cry is raised "exercise for the children," any kind of exercise seems to be considered sufficient, the efficacy of such exercise not being taken into account at all. That such a view is not justified by facts, must be apparent to everyone who has studied the physiology of bodily exercises.

In offering a few brief remarks upon the physical education in the English schools, it is necessary to point out the great difference that exists between the various educational institutions of the country.

In the universities and the large public schools the physical education of the students takes a prominent place. Well-fitted gymnasia, swimming baths, and large fields for the systematic practice of sports and games, afford opportunities for bodily exercises of which the scholars avail themselves in the most spirited manner. No other country can be compared to England in this respect.

But in the elementary schools, to which I will confine myself, the case is quite different. These schools leave a great deal to be desired in what concerns the physical education of the child. Here, for obvious reasons, regulated physical exercises—educational gymnastics—must take the place of free games and sports.

Everybody who has studied child-life in its different phases, knows that there is one thing especially which strikes the observer, namely, the incessant and irrepressible need of movement that every healthy child exhibits. The cause for this is to be sought in the natural laws according to which the whole development of the child takes place. Physiology teaches us that muscular exercise is simply necessary for the growth of the child; as necessary as food and air to attain the development, physical and mental, that nature intended. Depriving the children of the opportunities for free movement is, therefore, a direct violation of nature's laws, and cannot be done without harm to their organisms.

When the child begins school its conditions of life are at once considerably altered. From freedom it is brought under restraint; from the perpetual motion which its body requires, it is placed on the school bench and told to "keep still," an order which, as every teacher knows, is obeyed with great difficulty. This alone would be sufficient to impede and prevent the natural growth and development of the child. But on the forms bad positions are often taken and sustained for some time by the pupils. The injurious effects of forced inactivity are thus aggravated, and the result is, too often, deformities of various kinds. Hence it is that we see so many children afflicted with those so common ailments, popularly called the poking chin, the stooping shoulders, the flat and narrow chest, generally combined with spinal curvatures of one form or another. It is interesting to note how all these defects directly attack the chest, just the part of the body which, containing organs of such vital importance as the heart and lungs, ought to be particularly protected.

If we consider the cause of all these deformities, the remedy will be found near at hand; for it only stands to reason that if muscular inactivity and bad positions *can* cause and *do* cause an evil, the contrary—physical exercises consisting of rightly-chosen movements, carefully executed in good positions—will, if used in time, counteract the bad influences, and prevent the irregular development. And that such is the case has been abundantly proved by experience.

Therefore, although the studies in school compel the children to muscular inactivity for a certain time, which cannot be prevented, we must by suitable exercises prevent them from suffering harm physically;

and it becomes an imperative duty in the management of the school to see that this is effectively done.

The aim of physical education is a harmonious development of the body. Remembering the grave dangers we have just mentioned to the natural development of the child consequent upon school life, it is clear that these must first of all be averted. The exercises must therefore, in the first instance, be *corrective*, that is to say, directed towards widening of the chest, straightening of the spine, a correct carriage of the head and shoulders. The greatest attention should be paid to their effect upon the respiratory and circulatory organs. To attain this, the muscles must be the *means*, not in themselves the *end;* for a muscular development is not always a sign of bodily health. If attention be paid to such developments mainly, harm is often done to vital parts. It is well known that heart and lung diseases are the professional ailments of acrobats and others who make violent gymnastics their aim in life.

A most important matter, although often neglected, is the *sequence* of movements in the lesson. When we reflect how every movement has its effect, local and general, upon the system, it is clear that the exercises must not follow each other anyhow, but with due regard paid to this effect. For instance, an exercise which has unduly increased the action of the heart and lungs must be followed by one which has a quieting influence upon the same organs.

It is often urged that the exercises should be made a recreation for the children. This is true enough, although not in the sense in which it is generally spoken. For by "recreative" is, more often than not, meant "amusing" exercises; and to provide amusement is not the aim of Physical Education. But recreative in a higher sense of the word, bodily exercises, righly executed, certainly are. For by muscular activity the blood is drawn from central to peripheral parts of the system. Congestions to the brain and pelvic organs—caused by intellectual work combined with long sitting still on the school-benches — are thus relieved; and a re-action takes place as beneficial to the mind as to the body.

Regarding the question of physical education from the *hygienic* point of view, there can scarcely be any doubt as to the place that should be allotted to the subject in the ordinary school routine. It cannot very well be compared with the other subjects taught in school. Its aim and the object of its introduction in the school work are different. Here the instruction does not mean preparing for an examination with questions and answers. It means rather the supplying of a want, the want of movement which nature requires for the healthy development of our children. What is the use of well-constructed forms and benches in the school, if the children are not able to carry their spines erect and avoid curvatures of different kinds? What is the use of airy, well-ventilated class rooms, if the children have not got large enough lungs in their narrow chests to benefit of the fresh air? What is even the use of intellectual instruction, if the overtaxed brains of the children are not capable of digesting the mental food they get during school hours? Let, therefore, physical education take its place amongst and complete the hygienic arrangements in the school. If looked upon as a part of

the school hygiene, much of the opposition and prejudices by which its progress is now hampered will vanish, and many misunderstandings regaridng it will disappear. To be of any use a proper amount of time must of course be given to the subject. That the lessons ought to be of daily occurence is only natural, since the defects in School-life which they are intended to neutralize are always at hand. It is an important question in itself and worthy of earnest consideration. But less than half-an-hour each day cannot be proposed seriously, if the children are to derive real and lasting benefit from their work.

As already remarked the subject is not yet arranged on a satisfactory basis in the elementary schools. Military drill or physical exercises are certainly taught in most of them, but the exercises lack strangely both in quantity and quality. In quantity, because the time allotted is insufficient; in quality, because the exercises are badly chosen. The reason for this is, no doubt, that the subject has been and is looked down upon; time and thought are unwillingly bestowed upon it.

The teachers—mostly excellent as instructors—lack, as a rule, the theoretical knowledge necessary to choose and combine the movements to the greatest benefit of the children. Exercises are copied either from the acrobat's tricks or from military gymnasia. The latter are by far the best, but the teachers—often old soldiers—ignore that what is excellent for the development of muscle in a healthy, full-grown man may be entirely unsatisfactory and even dangerous to a growing child.

In addition to this comes the love of display, which has been carried to such an extent that often the real hygienic and educational object of the exercises is quite obscured. Movements are executed to music, and everything, form and usefulness, is sacrificed to the time of the piano or the rhythm of the song, as the case may be.

It is evident from these few facts that reforms are required. Neither are signs of improvement wanting. In many schools throughout the country, especially girls' schools, physical education has been introduced in a rational manner. The School Board for London has for several years paid some attention to the subject, and with good results.

In most cases these improvements are based upon the s.c. Swedish system of gymnastics, a system as yet very imperfectly known here, but well worthy of a thorough study. On the Continent attention is now directed towards this system of physical exercises, and publications have appeared lately which treat of this branch of education with special reference to its standing in Sweden; of these I take the liberty to mention two. One is a pamphlet by Dr. E. Meyer, printed in Doberan, 1889, and bearing the title, "Zur körperlichen Erziehung der Jugend." The other is an article by Dr. Fernand Lagrange, well known for his previous work on the physiology of bodily exercises. It appears in the April number for this year of the "Revue des deux Mondes," and is called "La Gymnastique à Stockholm." Both authors speak from personal knowledge of the subject, having spent some time at the Royal Gymnastic College in Stockholm, and recommend a study of the Swedish system on account of its thoroughness, scientific basis, and obvious good results upon the youths.

In England, with the Englishman's well-known love for bodily health and vigour working in its favour, there should be a bright future and rapid progress for physical education. But time and a distinct place in the school curriculum must be given to the subject. This, I think, would be best accomplished by insisting upon educational gymnastics being introduced as a part of school hygiene, to which the exercises, as pertaining to the healthy development of children, rightly belong.

DISCUSSION.

Lord Meath expressed his thanks to the Chairman of the London School Board and to the Chairman of the Physical Education Sub-committee for the advances which have been made by them in introducing physical exercises into their schools. He was convinced that in our large cities large numbers of children in the poorer parts were distinctly degenerating in physique, and that it was absolutely necessary that the care of the body should go on side by side with the cultivation of the mind. He had lately returned from Norway and Sweden, and had seen splendid gymnasia attached to the ordinary schools; this led him to doubt the justice of the statement made by Mr. White that the use of apparatus was to be deprecated. Dr. Brooker, of Much Wenlock, had clearly shown that children who had been taught military drill combined with gymnastics showed a better improved physique than those who had only been put through a course of military drill alone. Lord Meath referred to statistics given on this point in an article he had written in the June number of the North American Review for 1891. Teachers of gymnastics should always be the ordinary teachers of the school, and never be taken from outside for several important reasons, also mentioned in the above article. He trusted that the swimming-baths built by the School Board would be fitted up in winter as gymnasia. He asked for support for the Bill on physical education he had introduced into the Upper House placing physical exercises, as regard schools in towns with a population of over 15,000, in the category of those subjects which must be taught by every school authority desiring to obtain the highest Government grant.

Mr. Noble Smith thought that the proposal to allow a quarter of an hour's recreation in each hour, even if not quite accurate in degree, was a step in the right direction. But before we arrived at this state of perfection we ought to abolish all out-of-school work. While acknowledging the great benefits of physical exercises, he thought that they should form a part of the work of school and not of the play. Long walks differed, he thought, from physical exercises in that they produced a strain of one set of muscles. That due rest should follow all exercise, he urged as very necessary. He proposed the following *Resolutions*:—

1. That all out-of-school work be abolished. This, having been amended so as to read "That the hours for home lessons should be restricted," was *carried*.
2. That ample physical recreation should be carried out. This resolution was *carried*.
3. That long walks are undesirable. This was *lost*.
4. That in the intervals between exercise the body should be properly rested. This resolution was *carried*.

The Value of Hygienic Education to Women.

BY

A. T. SCHOFIELD, M.D.

However great the advance has been in the general education of women during late years, there is still a missing link of vital importance in the chain as long as personal and domestic hygiene is not regarded as a most essential part of their education; and it is a subject to which the Council have rightly accorded a place in this Section of the Hygienic Congress. With regard to hygiene, women have actually and relatively lost ground as compared with men. In the darkness of the middle ages not only were women generally better scholars than their knightly husbands, who were often unable to read or write, but whatever knowledge of hygiene existed, or of the curative art, or of nursing, was found with them. In many cases the women, with their stores of simples, represented the entire medical practice of the neighbourhood.

The great modern advance in the education of women in arts and sciences is but a somewhat tardy attempt to regain their lost position, and one to which every one desirous of the improvement of the race will wish God-speed. All that we could now urge is not that other studies should be curtailed, but that amid the less generally useful studies of chemistry, botany, physics, &c., the science of hygiene should take a place commensurate with its undoubted importance to human health and happiness.

As to this importance, let us hear Herbert Spencer:—"If any one "doubts the importance of an acquaintance with the principles of "physiology as a means to healthy living, let him look around and "see how many men and women he can find in middle or later life "who are thoroughly well. Only occasionally do we find vigorous "health continued to old age; hourly do we meet with symptoms of "acute disorder. Here is a case of heart disease consequent on a "rheumatic fever that followed reckless exposure. There is a case of "eyes spoiled for life by over-study. Yesterday we heard of one "whose lameness was brought on by continuing, in spite of the pain, "to use a knee slightly injured. Now we hear of an irremediable "injury which followed some silly feat of strength. Is it not clear that "the physical ills which produce this ill-health to a great extent make "life a failure and a burden instead of a benefactor and a pleasure."

This science, however, still remains the most neglected of all the sciences. And yet it is in every way peculiarly adapted for women to learn. Its principles can be easily acquired, and are not hard to remember; and while some may doubt the wisdom or the necessity of having women as doctors in this country, none can deny the extreme value to those who naturally have the care of the house and home, and of children and the sick, of learning all they can about the science of prevention, which is better than that of cure.

The present loss of life in this country from preventible causes is still disgraceful. Taking the number of deaths as 500,000 in a year, it is found that only $\frac{1}{10}$th of these persons reach 75. Of the 450,000 who die before that age it has been computed that about 250,000 die from preventible causes; and taking the number of sick cases to deaths to be as 28 to 1 (a moderate proportion), we get an aggregate of some 7,000,000 needless sick beds every year, with all the sorrow, distress, and loss of time and money that they involve. Taking the population as 35,000,000, and allowing five to each family, this makes one case to each household in the kingdom that they represent. Public sanitation has already done much to improve this state of things. In 1888 there was 140,000 fewer deaths and a proportionately less number of sick beds than in the average from 1840–1875, in which latter year the Public Health Acts were consolidated.

But great though the advance may be, Lord Derby says:—"Sani-"tary instruction is of the two even more essential than sanitary legisla-"tion. Nothing can supersede the value of personal and private "care."

If public sanitation has been mainly effectual in reducing the death-rate in old cities one-third and in new cities one-half, and in raising the average duration of life from 20 years in the 18th century to 36 in the 19th, what may we not expect from the spread of hygeinic principles among the people and a knowledge of its laws among the mothers and mistresses of our country? The leading diseases—consumption, bronchitis, inflammation of the lungs, convulsions, and scarlet fever, are all more or less clearly preventible, and are constantly being prevented by hygienic care.

Dr. Farr considers that the proper duration of life is five times that of growth, and putting this down in the human species as 20 years, we arrive at 100 being the full span of existence apart from inherent or acquired disease. This of course only gives the general length of life. As a matter of fact no absolutely healthy child is probably ever born into the world—so universal is the heritage of diseases, and thus the general span is lessened by one fourth. The individual expectation of life can be best ascertained by adding together the ages of the parents and four grand-parents at death and dividing by six, adding one year for every five if the result be over 60, and deducting one year for every five if it be under 60. It is, we submit, the bounden duty of every person to live out, if possible, his allotted span of life, and there can be no doubt that a personal knowledge of hygiene is the best means to succeed in this.

Let us now see what is included in the comprehensive word hygiene. Its tremendous elasticity is evidenced by the diverse and far-reaching aims of this Congress. In its present use in this paper we include all that pertains to the health of the body, and in our opinion the general instruction to women should include the following items: a practical course of lectures on physiology, with outlines of anatomy; a course on nursing; on first aid to the injured; on house sanitation and ventilation; on food and its uses; on cookery, and on any kindred

subjects that enforce the five laws of healthy living—good air, good food, cleanliness, suited exercises and rest, and healthy clothing.

I have earnestly attempted to carry out part of this programme for years; but increasingly feel that isolated efforts, however arduous, do not meet the necessities of the case, and that it should form a most important part of the work of our great societies, such as the Sanitary Institute and the National Health Society. These might organise and equip a hygienic college for women on a sufficiently broad basis to attract the educated and cultured classes, while at the same time providing for the needs of the poorer women.

It remains for me to establish my point of the special value of the teaching to women and specially with regard to the preservation and proper training of young life. We may consider its value to women under the following heads:—as women; as wives; as mothers; as mistresses; as governesses and teachers; as nurses; and as workers.

As *women* the knowledge of personal and domestic hygiene is of value, 1st, for oneself, and, 2nd, for others. For oneself there is no doubt whatever of its value in prolonging life, in preventing sickness, and in preserving beauty. It is pitiable to think how many at this moment are leading lives of suffering and of comparative uselessness, who, had they possessed this knowledge, might have been strong and useful. With regard to its value for others, a lady well-known in London society writes to me as follows:—"How sadly can I add my "testimony to the dangers of this lack of hygienic knowledge; for the "dear ones whom I have lost in my own family might have been "saved—*all* were lost to me through preventible illnesses; and how "many a mother has gone through the same agony which might have "been prevented had such knowledge been given her. Would that "we could open the eyes of those who are careless on these subjects "to the mistake they are making, and to the importance and necessity "of hygienic knowledge. Were people *thoroughly* aroused and con-"vinced that their ignorance is positively culpable, I believe they would "flock anywhere to learn all that they could."

Consider also the intrinsic interest of the subject to women, and how peculiarly suited it is to them from its domestic nature and sphere of application.

Observe the pitiable paralysis that comes over an otherwise clever woman from lack of this knowledge at the time of some sudden accident. This knowledge not only increases the usefulness of women in every way, but is of special value in connexion with doctors' visits. So far from making women quacks, such knowledge alone enables them to appreciate medical skill, and ably and intelligently to carry out the doctor's orders.

Look at its value to *wives*. How much drunkenness is due to insanitary and disorderly homes, to ill-cooked and ill-chosen meals, to dirt and disease of all kinds? When we consider that among the poor a man's health is literally his fortune, and the sole support of his wife and children, we see how essential it is that, whatever else the wife may be ignorant of, she should have a working practical acquaintance with

those laws that enable her to keep the home healthy and clean, and to nurse her family efficiently in sickness.

As a *mother* her knowledge of hygiene is perhaps of even more practical importance than as a wife. When we consider that even now amongst the poor the mortality of infant life is 50 per cent., and when we find among the rich it is not above 5 per cent., we know much is preventible, and in many cases surely amounts to homicide. Nor is it possible to justify such slaughter on Darwinian grounds, for it is by no means the unfit that succumb, but children who might have made strong and valuable men and women. If we remember that *four* out of every *five* infants who die, do so from bad food in some shape or other, surely we shall plainly see that a thorough knowledge of the food suited to infant and child life is a most essential part of a mother's education. Consider, again, how as the child's body grows, it may be well or ill shaped, dwarfed or properly developed. It is found that of two boys of 15, one well cared for and fed, the other with poor food and unhealthy surroundings, the former will average about three inches taller and a stone heavier. But this is not all. There is a hygienic training of mind of still greater importance. Hear, again, what Herbert Spencer says: "The training of children physically, morally, and intellectually is "dreadfully defective . . . . *because* parents are devoid of that "knowledge by which alone this training can be rightly guided. Is "it not madness to make no provision for such a task? Better "sacrifice accomplishment than omit this all-essential instruction. "Judge, then, whether all who may one day be parents should not "strive with some anxiety to learn these laws."

Again, as *mistresses*, how invaluable this knowledge becomes. As a rule, a man knows very little about a house beyond the rooms he occupies. It is the mistress who inspects the lower regions, who knows where the cistern is, who sees the dustman call, and who scents incipient sewer gas. How important, then, nay, how absolutely essential it is, that the young girls of our country, ere they marry, should be carefully trained in the knowledge of what pure air and pure water mean, and the causes and varieties of domestic poisons. The one subject of ventilation, and how to secure pure air throughout a house without draught, is of the very first importance to health, and no greater benefit could befall our working population, as well as the whole population, than thoroughly to explode by hygienic knowledge the widespread prejudice against night air.

When we consider women who have officially charge of other people's children, such as *governesses*, *teachers*, *nurses*, &c., we are increasingly struck with the necessity of this knowledge. We confidently hope that the time is not far distant in this country when the first requisite for any such post will be the possession of a proper certificate of proficiency in the hygiene of childhood. Observe how this science pervades every detail of their duties. How it regulates the hours of study, suiting them to the child's strength and growth; how it determines the arrangement of light, air, and ventilation in the schoolroom and nursery; how it arranges the very posture of a child when sitting

and standing; how it regulates the amount of exercise, rest, and sleep required; how it detects in time incipient signs of disease; and how it gives the proper place to the due development of the body by calisthenics and games.

As *nurses* this knowledge checks the pernicious system of nursery quackery by patent medicines and soothing draughts; it regulates the food and dress of the children; and, in short, greatly checks any disease arising from preventible causes.

Finally, when we consider women as *workers* amongst the poor, and missionaries of various sorts, it is needless to point out how their value is doubled by such knowledge. It is for this reason we so desire its spread among the educated classes, that they in their turn may disseminate it amongst others.

Some ladies have large numbers of dependants, among whom disease is more or less endemic. Let them imitate the noble example of the writer of the letter I have read, who, after hearing two lectures on this subject, was so impressed with its importance that she straightway worked up the subject, and returning to her Highland home, in the schoolroom on her estate gave to her tenantry four of the best addresses I have ever read on every-day hygiene.

We are delighted to know that the County Council of Devon have grasped the value to the poor of this teaching, and have lately, with the aid of the National Health Society, carried it out on a large scale.

What we insist on in this paper is that for the sake of their children, their servants, their husbands, and their homes, their neighbours, and, lastly, themselves, it is the duty of every woman in England to acquire a sound knowledge of hygiene, whatever other branch of learning she may neglect. I have no time to point out how this great end may be best attained, or to notice the various efforts already made for this purpose, but I certainly think the time has come when the societies I have named should bestir themselves to more vigorous efforts.

Manual Training in relation to Health.

BY

SIR PHILIP MAGNUS.

Among the many changes that have taken place in the system of national education during the last decade, by no means the least important is the practical recognition of the principle that education is the right development of all, and not of some only, of the faculties of mind and body in preparation for complete living. As regards the mental faculties, we were accustomed in times not so long ago to speak of the five senses as the sole agencies through which mind and the external world were brought into close relation. Of these five senses, the eye and the ear were not only the chief, but the only sense organs

that were utilised, and these only in so far as they served for the exercise of memory. Education consisted mainly of repeating facts acquired at second hand. The senses themselves, as organs of perception, were very little cultivated, and among these the muscular sense was not included. Yet it has now been long known that much of the knowledge which we acquire by the direct action of the eye is the result of muscular changes, and that by far the greater part of our knowledge of the external world is due to the action of the limbs, and to the muscular impressions produced upon the brain through the calling into play of the appropriate nerve-centres. With all this Physiology has made us fully familiar; but education (which, from its theoretic side, may be regarded as an applied science) has been slow to recognise the necessity of cultivating the muscular sense as a means of acquiring knowledge. Indeed, the acquisition of knowledge at first hand has been little considered. The revolution that is associated with the New Education is little more than a protest against teaching by authority, and the substitution therefor of teaching by observation and experiment; and this new departure implies the training of all the organs which are concerned in giving exact notions of the things about us. This is a great advance on learning by memory only. The New Education demands the careful training of all the organs by which knowledge is primarily acquired. It rests, therefore, on a psychological and physiological basis. Manual training is claimed as a subject of school instruction, because it serves to exercise conjointly, and in harmony with one another, the muscles and nerve-centres of the hand and eye, which are concerned in perception.

This is the intellectual side of the argument for the introduction of manual training into our schools.

Although of importance in the education of all children, workshop instruction is of more importance in the training of those who have mainly to employ their hands, as helping to create aptitudes and to fix sense-impressions in the brain, which will subsequently prove serviceable to them. Regarded from the economic or industrial point of view, much has been said of late in favour of manual training, in connexion with the question of technical education. To our young artisans there is little doubt that instruction which serves to exercise the hand and eye, to teach exact notions of form and size, of mass and hardness, and to enable the hand to represent on paper, and to reproduce in material what the eye perceives, is most serviceable; and if, at the same time, the instruction can create aptitudes for using instruments of precision, and can develop handiness concurrently with the training of the intellect, its educational value must, in course of time, be generally recognised.

It is only five years ago, at the Birmingham meeting of the British Association, that I ventured to put forward these arguments in favour of manual training, and, relying mainly upon my experience of foreign schools, to urge upon the authorities responsible for our education the desirableness of introducing such teaching into our public elementary schools. At that time France, Belgium, and Holland had brought the workshop into the school, and the system of manual instruction, known as Slöjd, was generally adopted throughout Sweden. In the United

States the new idea was readily seized, and societies were established, and a whole literature came into existence to advocate manual training. As authority for such an innovation in our methods of instruction was needed, it was pointed out that similar teaching had been strongly recommended by many of the most eminent writers on education of all times; and Comenius, Locke, and Rousseau were quoted in support of this new subject of instruction.

The progress of the movement during the last few years has been very rapid. Tried experimentally in one or two schools at first, and later on more systematically in London under the auspices of the School Board and the City Guilds Institute and the Drapers' Company, this subject, which is now formally recognised in the Education Code, is likely before long to be generally adopted in our schools. Already there are over 700 boys under instruction in connexion with the School Board of London. These children vary in age from 11 to 14. They come from 61 different schools, and receive instruction in nine centres in the metropolis. But at present we are only at the beginning of the movement. New centres of instruction are being rapidly formed, and before the end of 1891 it is expected that in London alone provision will be made, under the London School Board, for the manual training, in properly fitted workshops, of nearly 3,000 boys. In other cities, particularly in Manchester, Liverpool, and Birmingham, equal progress has been made. So that before long we may expect to find the whole of our future artisans undergoing a supplementary training altogether different in kind from that which, during the first twenty years, has been provided in our public elementary schools.

There is another aspect in which manual training may be considered, which is of equal importance with the intellectual and industrial points of view, and that is in its relation to the health of the children. Experience and theory both show the value of the instruction as a mental exercise, and as a serviceable preparation for the actual work of life. But in education the *corpus sanum* has to be considered as well as the *mens sana*, the healthfulness of an occupation as well as its intellectual character and utility. In visiting foreign schools I have been struck with the superior physique of the boys engaged in the school workshops over those occupied for the whole day in sedentary pursuits, and these observations have left no doubt in my mind that manual training conduces to physical growth and development. But casual observations such as these do not count for much, and the subject is one well deserving further inquiry.

Some few years ago there was a great outcry that the children in our elementary schools were being over-instructed, and that their minds were being educated at the expense of their bodies. The cry of "over-pressure" was everywhere heard, and many trustworthy authorities and others who were silently opposed to all education of the people proclaimed that we were injuring the physical constitution of our future working classes, and were training a body of short-sighted, narrow-chested, muscularly weak artisans, whose smattering of learning would prove no adequate compensation for their deterioration in physique. The outcry did some

good, for it drew attention to the condition of elementary education, and accelerated the improvements which have since taken place. Careful investigation showed that children suffered more from *under-feeding* than from *over-pressure*, and soup kitchens and penny dinners have since been more liberally provided. But the causes of under-feeding could not, unfortunately, be permanently removed; and allowing for some exaggeration in the "over-pressure" cry, it was ascertained that the conditions of our primary instruction did tend to encourage undue pressure of both teachers and pupils. The competition for money grants on results was altogether unwholesome and has been gradually discontinued. But apart from that, the education provided in our schools was shown to necessitate too much sitting, too much reading and learning by heart, and to take too little account of the natural and spontaneous activity of the child. It failed to develop the child as a whole, in accordance with its physical constitution, and the natural overflow of vital energy was restrained instead of being directed into channels of future usefulness. The remedy for this could not be found in mere physical exercise—in drill, gymnastics, or in ordinary recreation; for these subjects occupied a large amount of time and could not well be made educational in character. The school hours, if devoted exclusively to book learning and employed in sedentary occupations, were too long and proved too great a tax upon the child's strength, and the system failed to ensure at once healthy development of body and intellectual progress. What was needed was a subject of school instruction, which, through the exercise of the muscles, should stimulate the brain and at the same time secure intellectual discipline. This was found in manual training. Experience shows that where manual training has been introduced into schools, it is helpful in maintaining the body in a healthy condition, whilst serving at the same time to stimulate the mental powers. Theoretically this is only what one would expect, but experience has verified the expectation. M. Salicis, the founder of the Ecole Tournefort at Paris, to whom the movement in favour of manual training is so largely due, tells us, after an experience of 16 years of Paris schools;—"The children thrive, "notwithstanding that their attendance in school is longer by two hours "than the regulations provide." And the instructions placed at the head of the programme for manual training, now observed in all French schools, fully recognise the advantage of such teaching from a hygienic point of view. In defining its object, we are told—"Manual training "has a double purpose, one of which is to strengthen the body, to "invigorate the constitution of the child, to place him in the hygienic "conditions most favourable to a general physical development." From all countries we have testimony of the salutary influence of this training, and our own experience shows that, apart altogether from the industrial advantages which children derive from the aptitudes it creates, it quickens their intelligence, and increases their interest in their ordinary lessons, enabling them to fix their attention with less loss of energy upon their other studies.

There can be no doubt that the concurrent development of all the functions and faculties of the child is an indispensable condition of

healthy education. Without some kind of manual training this cannot be effected. We are told that the brain consists of distinct parts which subserve separate offices, and that certain nerve-centres situated within the brain initiate and regulate through the will distinct muscular actions. These nerve-centres appear to control actions which are more susceptible of educational influences than the reflex actions referable to the spinal cord; and the development of these motor centres, and consequently the due development of the brain, of which they form a part, depends upon their being called into use and properly exercised. It would appear, moreover, that each such centre has a definite period of growth during which the exercise of the organ it controls conduces most to its development, and that if this exercise is neglected the nerve action in the brain is enfeebled and the activity of the organ is impaired. It is important, therefore, that education should seize upon the organ during the period of development of the corresponding nerve-centre, if the organ is to be trained to most advantage. Experience fully confirms these inferences from experiments, and shows that manual dexterity and nearly all other aptitudes are best acquired during childhood, and that no amount of exercise in after life can compensate for omissions in our early youth. Sir James Crichton Browne, who is perhaps an unwilling witness to the advantage of introducing manual training into our elementary schools, tells us, "The nascent or development period of the hand-centres has "not yet been accurately measured off; it probably extends from the "first year to the end of adolescence; but there can be no doubt that "its most active epoch is from the fourth to the fifteenth year, after "which these centres become comparatively fixed or stubborn." And he goes on to say that boys and girls whose hands have been left altogether untrained up to the fifteenth year are practically incapable of high manual efficiency ever afterwards. In this statement we have a powerful argument, from the economic point of view, for making hand and eye teaching concurrent with other instruction throughout the whole period of a child's primary education. But I do not desire now to dwell upon this aspect of the question, but to indicate rather the general effect of such training on a boy's health. On this point the same authority may be again quoted with advantage. He says, "The boy who is reared with "his hands bandaged physically or morally, or who is by any means "withheld from ample exercise and varied discipline of these wonderful "and willing organs, must grow up to some extent feeble and in-"capable;" and he adds, "Depend upon it, much of the confusion of "thought, awkwardness, bashfulness, stutterings, stupidity, and irresolu-"tions which we encounter in the world, and even in highly educated "men and women, is dependent upon defective or misdirected muscular "training, and that the thoughtful and diligent cultivation of this is "conducive to breadth of mind as well as to breadth of shoulders."

It may be taken then as proved that without exercise that brings into discriminative use the muscles of the hand, the brain itself may be said to be only imperfectly developed, and the general vitality is lowered in the same way as if any other sense is not utilised. But it is owing to the general and uniform muscular development of workshop exercises

properly directed, that the health of school boys between 11 and 15 years of age is undoubtedly improved. To the children of all classes such training may be considered, on purely intellectual grounds, a necessary part of school education, and it is satisfactory to know that workshops have been recently attached to many of our public and endowed schools. But to the children who frequent our national schools, and who form the bone and sinew of our population, such training is still more important, not only intellectually, industrially, and morally, but also in its bearing on their muscular development. The conditions under which they live give fewer opportunities for healthful physical exercises than are enjoyed by children who are placed in more favourable circumstances; and the fact that the majority of these children will be occupied with manual work during the greater part of their life is an additional argument for utilising a part of their school days in training the organs, on the usefulness of which their future progress so greatly depends.

Dr. Woodward, to whose intelligent and well-directed efforts the development of manual training in American schools is largely due, takes for granted, without argument, the hygienic value of such instruction. "It almost goes without saying," he tells us, "that the varied "exercises of a manual training school are highly conducive to physical "health."

It is a fact of some importance that the introduction of workshop instruction into schools has the effect of lessening the necessity for punishment. I think we may assume that any education in which punishment is frequent is an unhealthy education. The effect of punishment is to depress the nervous system and to diminish the intellectual energy needed for school work. Even where, under the influence of fear, better results are temporarily obtained, the general vitality of the child is lowered by punishment, and the educational results are less satisfactory than they might have been. The progress of educational science is shown nowhere to greater advantage than in the decrease of punishment as a means of school discipline; and the effect of these improved methods on the health of children generally, and particularly of children of nervous temperament, cannot be over-estimated.

Manual training is a school exercise which is not only attractive in itself, but quickens a child's interest in many of his other lessons, and the desire to take part in the workshop instruction is a wholesome inducement to attention and to general good behaviour. In the course of time there is no doubt that by adequately exercising, without subjecting to any painful strain, the various intellectual organs, all school lessons will be made sufficiently interesting to render punishment quite unnecessary. The addition of manual training to the curriculum of schools marks a very important step in this direction.

In order that workshop instruction may yield its maximum hygienic value, it must be given under conditions favourable to health. First of all, the school workshop must be constructed on approved sanitary principles. Hitherto we have been content to take any spare room, fit it with benches, and use it as a school workshop. But with the general adoption of manual training, the construction of the school workshop has

to be carefully considered, both as regards its size and shape and the best means of lighting and ventilating it. Then, as to fittings, we have to determine the proper height and arrangement of benches, the best kind of tool racks, &c. The mode of handling tools and the position to be occupied by boys at work so as to prevent injurious muscular development, are also matters of importance in their bearing upon the health of the children. On these and on many other points teachers will require to be informed, if manual training is to become a healthy exercise and is to occupy a prominent position in the school curriculum.

To some of these questions experience has already provided answers; others still await solution. A top-lighted shop, for instance, is not considered as good as one lighted from the sides. As regards the character of the instruction, lathe exercise is not considered as good as bench work. Most of the French schools are provided with lathes, and the boys work in groups of three to each lathe. But on this point M. Sluys, the director of the Normal School at Brussels, well says:— "The turners' work is always difficult, and not without danger; besides, "it calls for a one-sided effort. We cannot, therefore, give it a "prominent place in school work. In a word, woodwork without "carving or turning is sufficient to attain the general result sought." This view has guided those who have had the direction of manual training in this country, and is in accord with the opinions expressed by other educationists. Rousseau says, "The trade I should prefer my "child to choose would be that of a joiner (and by trade Rousseau only "means 'manual exercise') it is neat, it is useful, it can be practised in "the home, it keeps the body in tolerably good condition." The lessons given to teachers at the City and Guilds Central Institution have been restricted to bench work, and in the syllabus of examination for teachers' certificates, recently issued by the City Guilds Institute, "woodwork without turning" forms the main part of the examination.

I need scarcely say that not only the intellectual but also the health value of the instruction depends very much upon the intelligence and training of the teachers; and on this point I may be pardoned expressing some satisfaction that most authorities seem now to concur in the opinion I have elsewhere stated, that the "teachers should be trained schoolmasters." "It is among the primary instructors" says M. Sluys, "that the recruiting of teachers for this work is to be done." And further, "The experiments of Basidow, Francke, and others in regard "to manual training—the educational bearing of which these teachers "well understood—have failed chiefly because the instruction in this "work was entrusted to *artisans*, who considered the school a workshop "and treated the pupils as *apprentices*."

It will be seen that there are several important questions connected with the hygienic value of manual training as a school exercise on which it is desirable to collect more exact information than we yet possess.

Information as to the results of manual training under various conditions will serve as a guide in framing rules for such instruction, with a stricter regard to its healthfulness than has yet been done. It is very desirable that accurate measurements should be made of the

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children under instruction, so as to ascertain its effect in increasing muscular development. Records should be kept of the absences of children through illness, of their progress in other studies, and the results of these observations should be considered in connexion with the system of instruction adopted. In this way further guidance in directing the teaching on the best lines might be obtained. It must be remembered that manual training is yet, and is likely to remain for many years, a new subject. Its introduction into our schools marks an important change in our system of education. But it is still in its experimental stage. One of its chief advantages is to correct and mitigate the harmful results of that combination of circumstances, peculiar to the conditions under which the poorer classes have hitherto been educated, and known as "over-pressure." "In ordinary lessons," says M. Sluys, "pupils remain at their desks many hours. This sitting "position is bad; it enfeebles the body, and in this way reacts upon "the mind. Gymnastic exercise has its *raison d'être* in the need of "preserving the organic equilibrium. It increases the functional "energy, and through this the moral. Manual exercises if they are "properly chosen produce similar effects." That manual training may be made the means of developing the muscular strength, and of preserving and improving the health of the children in our elementary schools, there can no longer be any reasonable doubt; but it is important, for the intellectual as well as for the hygienic value of the instruction, that the best methods of training should be adopted, and such methods can only be secured by accurate observations and careful deductions. It is with the object of calling attention to the importance from a hygienic point of view of this new departure in our elementary education, that I have ventured to occupy the time of this Section with the consideration of a matter that has hitherto been regarded too exclusively from an industrial and economic standpoint.

DISCUSSION.

Dr. William Brown (New Zealand) said: A striking corroboration of the correctness of the views advanced by Sir Philip Magnus is afforded by what has been made a matter of reproach against the educational system of the present day. It has been said that the tendency of education is to make boys clerks, and girls sempstresses or shopkeepers. There has been in the past some reason for this. Sedentary habits contracted during school life tend to become stereotyped; and aptitudes in the use of pen and ink, which have been the activities cultivated during school life, determine the ambition and future of the children. Manual training and physical exercises will alter this for good.

Thursday, 13th August 1891.

The Chair was successively occupied by:—
The PRESIDENT;
Mons. TH. ROUSSEL;
Dr. KUBORN;
Dr. KOTELMANN;
Sir E. GALSWORTHY.

Neglected Children in our Towns and Cities.

BY

WILLIAM MITCHELL, Vice-Chairman of the School Board of Glasgow.

There are neglected children in every town and city of the United Kingdom.

There are neglected children in the charmed circle of the upper ten as well as in the poverty-stricken haunts of the submerged tenth.

My present paper is limited, however, by the programme to some consideration of the evils attending the latter class.

Of these, so far as numbers are concerned, it may be enough to say there are hundreds in every town, and thousands in every city.

It is scarcely necessary to describe them; they cannot be hid. One meets them at every turn.

Ill-clad, ill-fed, ill-conditioned, in alleys, in cellars, in lanes, in back-courts, in public thoroughfares—at markets, bazaars, and railway stations—selling papers and matches—dodging the bobby, jinking the "skill brod" officer—playing at pitch and toss, gambling at cards, touting for parcels to carry, and up to any mischief.

Certain groups rejoicing in the free-and-easy life of vagrant wanderers, others overburdened with premature care—neglect and sorrow written on every feature. Boys come most prominently into view, but girls share with them in every phase and variety of condition and circumstance.

As to their dwellings, they have all some corner called home, and every child of school age some parent or guardian who recognises responsibility. Let me glance at some of the so-called homes. Frequent reference has been made to the unprecedentedly large number of single room dwellings in Glasgow—numbering over 40,000. What that means when such single rooms are the abodes of a moderately sized family I leave you to judge. Take, for example, a room of 12 × 14, where reside father, mother, and half a dozen or more children of all ages. There may be two beds in the room, under which are hidden certain shakedown materials to be drawn out at night and laid on the floor.

In this single room the whole family board and lodge, cook their meals, perform their ablutions, dress and undress, while mothers, of course, attend to all the necessary claims of their young and infant children. The evil is too often aggravated by the admission of lodgers not belonging to the family.

Imagine, if you can, the state of such a room when morning dawns and the family begin, one after another, to rise from bed and floor. When visiting and well nigh suffocated in such dwellings during the day, I have often been constrained to cry "What of the night!" What of the night indeed? What of the horribly polluted atmosphere after a whole family have been immured for seven or eight hours in one of these small single rooms, mid all the fœtid vapours arising from damp and dirty clothing and from nameless impurities of various kinds.

All this is bad enough, but there is something still worse.

Where, let me ask, are the possibilities for decency, let alone purity and chastity, when boys and girls over twelve years of age are thus living together in a single apartment without even a screen or a curtain to separate them night or morning?

Such a state of things is not only a crying evil and dark blot on our boasted civilisation, but it is an open sore rendering social regeneration impossible while allowed to continue.

It may be asked how far it is possible to trace some of the causes which have led to the deplorable condition of neglected children both as regards their housing and as regards the pitiable condition in which they are so often found.

There are, as may be taken for granted, many orphans among them—many either fatherless or motherless—in many families the bread-winner laid aside by weakness or sickness—or the poor wife and mother deserted by an undutiful husband, who has gone off to other lands, a step so often and so easily taken at our shipping ports. In the greater number of such cases no parochial relief is granted, until at the point of starvation mother and children may be admitted into the poorhouse.

Such mothers for the most part prefer an honourable struggle that they may keep themselves and their children far from the poorhouse door; but what of the children while mother is thus engaged out of doors from early morning to late night?

Men who have lost their wives are not unfrequently in the same predicament, and the children, from want of parental control, are almost certain to grow into habits of carelessness, truancy, irregularity, or juvenile delinquency.

For these and similar cases where misfortune is the prime cause of neglect, only pity and help are due; but I need scarcely say that the chief causes for so many neglected children spring not so much from misfortune as from intemperance, thriftlessness, and misconduct on the part of parents.

Any attempt to arrange and formulate these causes, as they lead on to poverty, nakedness, wretchedness, degradation, and not unfrequently imprisonment, would leave me no time to speak of remedial measures, so I shall only add here that the prominent features of social degradation

are so bad, they can only be compared to a malarious jungle, where parasites choke all healthy growth, and poisonous exhalations deaden all sense of morality and even decency.

The object of this Congress is not so much to listen to descriptions, and to look upon the evils which surround certain classes of poor children, as to consider and discuss such remedies as will lessen or remove these evils.

The remedies may be described as legislative, social, or individual.

Of *legislative* measures which are desirable, let me take special note of one which might be framed to deal with one-room dwellings. Lest I should alarm the timid, let me say at once I am quite aware of circumstances where for suitable inmates a single room dwelling may be as healthy and happy an abode as a palace with countless apartments, and with such I have no desire to meddle, but I do wish Parliament to interfere with the present indecent and scandalous practice of a parent lodging his adult children, boys and girls, with himself and his wife, in a single apartment.

The Education Act declares it to be the duty of every parent to provide suitable education for his child, and enacts severe penalties in the event of failure. In similar terms I would suggest that a law be framed declaring that it shall be the duty of every parent to provide suitable and decent lodging for his children, and in no case shall girls over twelve years of age and boys over thirteen years of age, being of the same family, lodge with their parents in a single apartment. If, in such circumstances, the parent is unable from poverty to provide sufficient lodging, application may be made to some properly constituted authority, and it shall be the duty of the said authority to pay the additional sum required when satisfied of the inability of the parent.

Let it be understood once for all, and by all classes, that it is not only a shame, but a criminal offence for girls and boys over twelve years of age, of the same family, to lodge with their parents in the same apartment, and a deadly blow will be struck at a hydra of immorality and impurity which at present disgraces certain of the lower districts of our towns and cities.

In Glasgow the School Board have always recognised the close connexion between sanitation and education.

They did their best to aid the Town Council last year in procuring a Bill, giving the magistrates stringent powers to deal with insanitary dwellings, and enabling them summarily to shut up those which were considered uninhabitable.

The following sentences of the school board memorial made a marked impression on the Committee of the House who had the Bill under consideration :—

"The School Board are convinced that little improvement will be made in the character and condition of a very large number of children so long as they are housed and environed as at present. The Board are taken bound to find the most comfortable and sanitary school premises with 10 square feet of space for each child, separation of the sexes, latrines, lavatories, playgrounds, with every appliance for

their well-being. Does it not seem a mockery to make this ample provision for six to eight hours of the children's school day, with the knowledge that many of them are returning to wretched homes which have no title to the name, and where habits of cleanliness, decency, and morality can scarcely be maintained? It is the experience of the Board that, to a large extent, the surroundings and social circumstances of thousands of children are the main causes of the truancy, irregularity, vagrancy, and juvenile delinquency which the Board have so much cause to deplore. After the ample testimony which has so recently been borne on all sides to the insanitary and immoral condition of the housing of so many of the poor, the citizens are entitled to demand that the subject be trifled with no longer."

I am glad to say the Bill was made law, and its provisions have proved so effective that already certain wretched houses have been condemned and are being cleared away.

The question, however, regarding the scandal of grown-up children lodging together with their parents in a single room is one which is not local but national, and will never be settled until taken up by an outcry proceeding from the whole country.

Passing from this phase of the subject, let me say that the *social* remedial agencies which have been set on foot in our towns and cities in other directions, on behalf of neglected children, are very numerous and very valuable. Let me present a brief summary of such as exist in Glasgow apart from the ordinary reformatory and industrial schools which are common to all our towns and cities.

Poor children's dinner-tables are established in 13 districts, and are open to destitute children for eight months in the year.

The Medical Mission and other philanthropic agencies have stations in various districts, accessible without fee to all poor parents and children, and in many cases medicine is also given.

Day refuges have been established by a benevolent Christian Association where a number of poor children are fed, trained, and sent to Board Schools, returning home at night. The same society have done marvellously good work in connexion with the Children's Fresh-Air Fortnight.

The Day Industrial Schools, which have only had an existence of eight or ten years, are proving invaluable. They are specially suited for children whose mother being dead the father has no one at home to look after his young family, or, the father being dead, the poor widow is all day at work. They have also been found admirably suited for a certain class of neglected, badly-trained boys who have got beyond ordinary control, and over whom female influence has been found to have a marvellous effect. They are open from early morning to about seven at night, and the influence of the children for good, when they return to their own too often degraded homes, has been very marked. These schools are equipped for a certain amount of industrial work, and are well planned for supplying regular meals, for bathing and washing, for play and drill.

While not an advocate for removing children from home and family life, there are circumstances where this is absolutely necessary, and

Mr. Quarrier's Orphan Homes at Bridge-of-Weir have a world-wide reputation for the large number of orphan, neglected, or forsaken children rescued from misery and want.

The Society of St. Vincent de Paul should also be mentioned as doing excellent work in connexion with neglected and destitute children of Roman Catholic parents.

The Society for Prevention of Cruelty to Children has found, I am sorry to say, a prolific field for carrying on its benevolent and enterprising labours. It has been the means of ferreting out many very deplorable cases of neglect, destitution, and cruelty, and the knowledge of its existence has done much "to stay the plague." Since the recent Act was passed the streets are entirely cleared of children engaged in casual employment at untimeous hours.

There are always a large number of infirm among the neglected children of our towns and cities. About these I might have a good deal to say; but the consideration of their condition falls under a different section in the programme of the Congress.

Let it suffice for me to notice that an admirable institution for infirm children, called East Park Home, has been carrying on excellent work ever since the inquiries of the School Board, eighteen years ago, brought to light the fact that many such infirm children were lying in wretched homes uncared for and utterly neglected.

I have referred to remedial efforts as being not only legislative and social, but *individual*. You will easily understand how important a place this individual sphere occupies.

Agencies exist, but how often do these agencies languish and prove ineffective because neglected children are not brought into contact with them.

I do not desire new agencies, nor do I even plead at this stage for additional workers in connexion with them, nor for more generous support.

What is chiefly wanted is hearty recognition of such agencies—taking full advantage of them—bringing the children into touch with them—and it is here that individual effort comes in.

Let it not be supposed for a moment that I ignore what individual effort may do apart altogether from such agencies, in the way of rescuing and succouring neglected children. Much is being done in a voluntary and independent manner, and much more may be done; but it is not open to every one to expend the time and money which this involves; while it is open to every one who crosses the path of a neglected child to direct or lead that little one to the agency most suitable to its case—to the healing waters which are flowing specially for its benefit.

When Lord Nelson was asked for instructions on the eve of one of his most celebrated battles, his words were to the effect—"You cannot go wrong, Hardie, if every vessel lays itself alongside an enemy's ship." That should be the spirit of all individual effort—not waiting for instructions, nor hanging back for directions, but with the agencies, with the force at hand, bombarding existing evils and rescuing the children.

Before leaving the subject of remedial measures I wish to make reference to a Bill which has been for several years before the House of Commons, called the Movable Dwellings Bill. It has for one of its objects to bring under some measure of supervision the thousands of vagrant tinker children who, with their parents, are roving over the length and breadth of the country, no man caring either for their bodies or souls.

I can testify, from my own experience, that in certain rural districts they are growing up as ignorant as, and less cared for than, the cattle who graze beside them in the fields. The grossest intemperance prevails in their haunts, and the most absolute misery and degradation. Did time permit I could give most harrowing revelations.

Strange to say, this Bill has been blocked time after time by members who profess to see in it some interference with the liberty of the subject. Save me from such liberty! It is not liberty, it is the grossest licence.

In closing, let me say that the intrinsic value of neglected children is terribly overlooked. They are too often spoken of as "the residuum," as "waifs and strays," or as "gutter children." Such titles may be applicable in some degree to their outward appearance, but in no sense applies to the truest and best part of their nature. Every one of them is precious in the sight of God, and capable of being moulded and fashioned to reflect His image. Look at a little company of such children gathered, as I have seen them gathered, in a Day Industrial School, under the charge of an experienced female teacher. What possibilities for good are there! What capacities for development! A crust of reserve, and sometimes even duplicity, engendered by former adverse influences, may prevail for a time; but let the discipline, although firm, be gentle and forbearing, and the training kindly and intelligent, and soon the hard shell gets broken; and there may be found dispositions as sweet, abilities as excellent, and natures as genuine as in circles the most favoured.

How simply and artlessly they bear their hard lot. No word of complaint crosses their lips. Sadly and silently they carry their burden. In all the thousand cases which have come under my notice I cannot charge my memory with one where a poor child spoke complainingly or unkindly of father or mother. I may seem to speak of them in terms too glowing, but I firmly believe that when taken in time, e'er yet the plastic elements of childhood and youth have become hardened and vitiated, there is about such children a receptivity for teaching and training, and an appreciation of sympathy and kindness which is full of encouragement.

Let not the nation say "this is no affair of mine." "An Englishman's house is his castle;" "an Englishman's child is his own." "Away with all grandmotherly legislation and all pauperising of parents." Well, be it so, but do not forget that the children are there, whether you will or no. If left alone, neglect and vicious surroundings will all too soon canker and blight their prospects of future usefulness, and instead of fruitbearing trees they will be "pricks in your eyes and

thorns in your sides." Happy the nation which makes the care of her children one of her chief concerns—watches over their interests with an eye that never sleeps—succours them in distress—protects them from evil—fosters and promotes their highest well-being.

Des Progrés de la Diffusion de l'Instruction publique en Belgique, au point de vue de la Criminalité et de l'Aliénation mentale.

PAR

le Dr. Prof. Hyac. Kuborn.

I.

Criminalité.

Les hygiénistes, les moralistes, les criminalistes mêmes sont loin d'être d'accord sur le rôle que joue l'instruction dans les crimes, dans l'aliénation mentale et les suicides.

"A mesure que l'instruction s'est propagée d'année en année, le nombre des crimes et des délits s'est accru dans une proportion analogue. Les Départements (il s'agit de la France) où l'instruction est le plus répandue, sont ceux qui présentent le plus de crimes, c'est-à-dire que la moralité s'y trouve en degré inverse de l'instruction." (Michel.)

Je n'examinerai pas les procédés de statistique qui ont fait aboutir à d'aussi décevants résultats. Je n'en relèverai qu'un seul. On prend un chiffre déterminé d'accusés et l'on découvre que :

25,000 individus ayant reçu une instruction supérieure donnent plus de 15 accusés ;

25,000 sachant lire et écrire en donnent 6 ;

25,000 totalement illettrés, 5 seulement.

J'ai bien relevé aussi, pour la Belgique, en considérant une période de trente années — 1856 à 1885 — une décroissance régulière bien marquée de la criminalité dans le chiffre des accusés dénués de toute instruction, tandis que la proportion des individus sachant lire et écrire, ou ayant reçu une instruction supérieure, augmentait dans un parallélisme non moins régulier. Mais, et il n'en peut être autrement là où l'ignorance disparaît, je me suis gardé de tirer de ce fait une conclusion désolante. En effet, en posant le problème sur son véritable terrain, en prenant pour termes la mesure du développement de l'instruction dans une population pendant une série de périodes déterminées, d'une part ; et de l'autre, le chiffre des accusés pendant les périodes successives correspondantes, nous sommes arrivés à montrer, en quelque sorte, l'antagonisme existant entre la diffusion de l'instruction et la criminalité. Aux résultats des recherches de Michel, Guerry, Dangeville, etc., en France, on peut opposer ceux de Villermé, de Bertillon, de Gaillard. Villermé fait observer que les Départements où se trouvent le plus de propriétaires aisés, en même temps qu'une bonne instruction primaire, sont ceux qui fournissent le moins de crimes de toute espèce contre

les personnes et les propriétés. Plus encore : les tableaux de Bertillon et de Gaillard montrent que plus les hommes s'instruisent plus ils s'améliorent ; ainsi, avant 1830, on comptait 1 accusé *illettré* sur 3,180 habitants, 1 *lettré* sur 3,020—après 1846, on comptait 1 accusé *illettré* sur 2,460 habitants, 1 *lettré* sur 4,500.

Voici comment nous avons procédé dans nos recherches. Nous avons, dans une première partie, considéré, pour huit périodes successives, courant de 1832 à 1875, la proportion des habitants pour 1 accusé du chef de crimes capitaux ; et, de 1850 à 1885, celle des accusés de crimes en général, c'est-à-dire contre les personnes et les propriétés. Dans la seconde partie, nous avons réuni tous les éléments d'appréciation propres à permettre de mesurer le développement de l'instruction, en Belgique, en nous attachant spécialement à celle qui s'adresse à la masse, à l'instruction élémentaire, et en faisant correspondre ces données aux périodes envisagées pour la criminalité. Nous serons, dans ces considérations, aussi bref que les chiffres.

Nous devons à l'extrême obligeance de M. Lentz, directeur-général au Ministère de la Justice, les documents relatifs à la criminalité. Les chiffres qui concernent l'enseignement ont été puisés dans les Rapports sur l'état de l'ensignement inférieur et moyen ainsi que das les Archives du Ministère de l'instruction publique.

Il importe de faire ressortir les raisons spéciales qui nous ont déterminé à faire figurer à côté d'un premier tableau donnant le rapport de la population aux accusés de crimes en général, de 1850 à 1885, un second tableau dans lequel est relevée la proportion des crimes capitaux seulement, de 1836 à 1875. Ce procédé s'imposait à la rigueur des déductions que nous visions. En effet, le législateur de 1867 a soutrait à la compétence des cours d'assises un certain nombre de crimes, en sorte que, pour la comparaison stricte de la période de 1868 à 1875 aux périodes antérieures, il convenait de baser cette comparaison jusqu'en 1875 sur les crimes à l'égard desquels la législation est restée la même, tels que le meurtre, l'assassinat, l'empoisonnement, le parricide, l'infanticide.

Périodes.	Rapport moyen du Nombre des Accusés à la Population ou Nombre d'Habitants pour 1 Accusé de Crime *en general.* I.	Rapport moyen du Nombre des Accusés à la Population ou Nombre d'Habitants pour 1 Accusé de Crime *capital.* II.
1836 à 1839 -	- - - -	1 accusé pour 70,141 habitants
1840 à 1845 -	- - - -	„ „ 80,023 „
1846 à 1849 -	- - - -	„ „ 77,450 „
1850 à 1855 -	1 accusé pour 18,453 habitants	„ „ 90,228 „
1856 à 1860 -	„ „ 17,095 „	„ „ 97,536 „
1861 à 1867 -	„ „ 27,971 „	„ „ 115,514 „
Code pénal modifié.		
1868 à 1875 -	„ „ 37,339 „	„ „ 102,523 „
1876 à 1880 -	„ „ 34,563 „	——
1881 à 1885 -	„ „ 40,367 „	——

Quand on considère dans le tableau I, la marche de la criminalité générale de 1850 à 1885, on y voit une progression descendante très marquée, sauf pour la période de 1856 à 1860 qui accuse une légère augmentation sur la précédente, 4. Cet accroissement n'intéresse pas les crimes capitaux, car si l'on jette les yeux sur la période correspondante du tableau II, on verra qu'il ne porte pas sur les crimes les plus graves dont la diminution est restée constante.

Dans la période suivante la décroissance est considérable de part et d'autre.

Elle ne le paraît pas moins de 1868 à 1875, si l'on s'en rapporte au tableau I : 1 accusé de crime général pour 37,309 habitants au lieu de 1 pour 27,971. Mais il convient de faire observer qu'une partie de ce résultat doit être reportée à ce fait qu'un certain nombre de crimes justiciables des cours d'assises, ont été soustraits à la compétence de celles-ci par le législateur de 1867. C'est ce dont témoigne le tableau II, qui accuse une augmentation dans les crimes graves atteignant environ 6 °/₀. Mais si nous comparons, depuis la réforme du Code pénal, la période quinquennale aux deux précédentes, 1868 à 1875 et 1876 à 1880, nous voyons que le nombre des accusés jugés par les cours d'assises a de nouveau très sensiblement diminué. (Dans les provinces de Flandre occidentale, de Brabant et de Namur pour les crimes contre les propriétés particulièrement ; dans celle de Luxembourg, pour les crimes contre les personnes ; dans celles d'Anvers, de Hainaut et de Liège pour les crimes contre les personnes et les propriétés à la fois.)

Ajoutons enfin que de l'examen des six périodes qui divisent les 32 années de 1836 à 1867, il résulte que la proportion moyenne des accusés traduits annuellement devant les cours d'assises pour crimes capitaux, a constamment diminué, sauf dans la période de 1846–1849. Mais il est à noter que trois de ces quatre années, 1846, 1847, 1848, ont été marquées par une longue et forte crise industrielle et alimentaire.

Soit donc que l'on considère de 1850 à 1885 le rapport à la population des accusés de crimes généraux, soit de 1832 à 1875 celui des crimes capitaux, il se dégage de l'analyse à laquelle nous venons de nous livrer ce fait général d'une diminution progressive et, à très peu près constante, de la criminalité.

Les rapports différentiels qui marquent de part et d'autre entre elles les périodes successives considérées peuvent être établis dans les relations suivantes :—

——	1836 à 1839.	1840 à 1845.	1846 à 1849.	1850 à 1855.	1856 à 1860.	1861 à 1867.	1868 à 1875.	1876 à 1880.	1881 à 1885.
Crimes en général -	—	—	—	10·5	9·7	15·9	21·3	19·7	22·9
Crimes capitaux -	9·8	11·2	10·8	12·6	13·6	16	14·3	—	—

Ou voit les progrès réalisés lorsqu'on prend les extrêmes :—

Pour les crimes *capitaux*, de 1836 à 1839, *un* accusé sur 70,141 hab.
1868 à 1875 „ „ „ 102,523 „
„ „ *en général*, de 1850 à 1855 „ „ „ 18,452 „
de 1881 à 1885 „ „ 40,367 „

II.

Instruction.

Pour procéder avec rigueur dans la comparaison de la marche de la criminalité d'une part, de l'instruction de l'autre, nous devrons prendre notre point de départ à la période 1846 à 1849. Voici pourquoi.

Avant 16 ans il ne se commet que très exceptionnellement un crime. D'après les relevés de la justice criminelle de 1856 à 1875, on peut établir l'échelle suivante des âges :—

De 16 à 21 ans, 9 % d'accusés.
De 21 à 25 „ 14 % „
De 25 à 30 „ 21 % „
De 30 à 35 „ 15 % „
De 35 à 40 et de 40 à 45 ans, 11 % d'accusés.

Ce n'est guère qu'à partir de 16 ans qu'on commence à devenir criminel. Or l'organisation sérieuse et légale de l'enseignement élémentaire en Belgique a été inaugurée par la loi de 1842. Si nous considérons que l'enfant abandonne l'école primaire vers onze ou douze ans, nous voyons que l'influence de l'enseignement n'a pu commencer à faire sentir ses effets avant la période sus indiquée.

L'enseignement élémentaire se donne en Belgique dans des écoles primaires inférieures et primaires supérieures, dites moyennes ; dans des écoles d'adultes ou primaires du soir. Les unes sont officielles, les autres adoptées et inspectées par l'administration publique ; d'autres enfin sont libres, laïques ou religieuses.

Nous prendrons comme éléments d'appréciation, le nombre progressif des écoles et des élèves ; les chiffres correspondants des dépenses ; le degré d'instruction des jeunes gens appelés au tirage au sort et incorporés.

Années.	Écoles primaires des deux Sexes, communales, adoptées ou libres.				Écoles d'Adultes soumises à l'Inspection ou libres.	
	Nombre d'Écoles primaires.	Chiffres du Personnel enseignant.	Proportion d'Élèves par 100 habitants.	Dépenses réelles annuelles de toute nature pour l'Enseignement primaire.	Nombre d'Écoles d'Adultes.	Chiffre des Dépenses.
				Frs.		Frs.
1842	—	—	—	2,651,639	—	—
1844	—	—	—	3,142,286	—	—
1854	5,498	8,807	10·5	4,837,858	979	170,527
1860	5,558	9,222	10·9	6,783,340	1,145	181,129
1869	5,641	10,576	11·7	14,669,158	2,620	217,168
1875	5,857	11,863	12·4	19,320,017	2,615	204,673
	Les chiffres suivants n'intéressent plus que les écoles officielles ou adoptées, le gouvernement ayant cessé de recevoir des renseignements sur les écoles libres, laïques ou religieuses.					
				Frs.		Frs.
1881	4,726	8,328	340,118 élèves	32,598,206	2,445	—
1883	4,797	8,669	346,012 „	35,119,443	—	—
1885	5,474	10.667	588,804 „	29,480,647	1,648	64,348
1888	5,517	11,236	601,488 „	27,328,549	1,722	65,118
1889	5,634	11,550	614,671 „	—	—	—

Années.	Écoles primaires supérieures ou moyennes du Degré inférieur.		
	Garçons. Nombre d'élèves.	Filles. Nombre d'élèves.	Sommes allouées par l'État ou par les Communes.
			Frs.
1860	7,745 (y compris ceux de l'école moyenne de Bruxelles).	—	455,436
1870	9,308 (y compris ceux de l'école moyenne de Bruxelles et de Liège).	—	579,791
1875	10,962 - - -	(Non organisées encore)	772,035
1881	12,416 - - -	4,361 - - -	1,129,084
1888	13,325 (y compris les écoles communales ou adoptées).	7,049 (avec les élèves des écoles moyennes, communales ou adoptées).	2,957,941

De l'inspection de ces tableaux ressortent les déductions sommaires suivantes :—

En 1854, le nombre d'écoles primaires était de 5,498; en 1889, il s'élevait à 5,857. Les chiffres respectifs des membres du personnel enseignant, instituteurs et institutrices, furent de 8,807 et de 11,863. Les dépenses occasionnées par l'instruction élémentaire qui, en 1842, année de la promulgation de la loi, comportaient 2,651,639 frs., absorbaient, en 1875, la somme de 19,320,017 frs., et atteignaient, en 1888, celle de 27,328,549 frs. pour *les seules écoles officielles ou adoptées*. Je ne parle pas des années 1881 et 1883, pendant lesquelles ont été faites de fortes dépenses extraordinaires.

Quant aux écoles primaires supérieures, les sommes allouées par les pouvoirs publics, en 1860, se chiffraient par 455,436 frs. Cette somme s'élevait, en 1888, à près de 3,000,000. A la première époque, 7,745 élèves les fréquentaient; en 1888, elles en comptaient 20,404, dont 13,325 garçons, 7,079 filles, y compris les enfants des sections préparatoires, équivalant aux écoles primaires inférieures.

La statistique officielle nous apprend que déduction faite des enfants en dessous de 7 ans—soit près de 1 million de la population du Royaume—le nombre d'habitants sachant lire et écrire, s'élevant en 1866 à 2,279,090, atteignait, en 1880, le chiffre de 3,187,630. Ces deux données, mises en regard de la population en général, fournissent, pour 1866, la proportion de 58 °/₀; pour 1880, celle de 70 °/₀.

Mais pour bien préciser la progression marquée, continue et sans oscillation de la diffusion de l'instruction élémentaire en Belgique, nous ne pouvons prendre de meilleure base que celle du degré d'instruction, officiellement constaté, des jeunes gens incorporés dans l'armée à la suite du tirage au sort.

Années.	En 100 jeunes gens spécialement.				En 100 jeunes gens en général.	
	Sans instruction aucune.	Sachant lire et écrire imparfaitement.	Sachant bien lire et écrire.	Ayant un degré d'instruction plus élevé.	Ne sachant ni lire ni écrire.	Sachant *au moins* lire et écrire.
1843	43·61	7·24	26·34	22·81	50·85	49·15
1850	36·46	7·69	24·26	31·59	44·15	55·15
1860	31·83	7·58	27·68	32·91	39·41	60·59
1870	24·01	5·22	31·99	38·78	29·23	70·77
1875	19·24	4·23	40·56	35·97	23·23	76·53
1880	17·49	4·17	45·45	32·89	21·66	78·34
1881	15·99	3·34			19·33	80·67
1882	15·87	3·22	45·50	33·05	19·09	80·91
1883	15·38	3·12			18·49	81·51

De 1850 le chiffre des ignorants est tombé, en 1883, de 44·15 à 18·49.

Le chiffre des accusés devant les cours d'assises en 1850, tombe, en 1883, de 1 sur 18,453 à 1 sur 40,367.

Tels sont les points extrêmes des deux lignes, dont le tracé diagrammatique reproduit les points intermédiaires.

Il ne manque pas d'auteurs qui affirment que la civilisation augmente le nombre de fous; que l'aliénation mentale et la diversité de ses formes sont en raison directe du degré de civilisation d'un peuple. Prises dans un sens absolu, ces propositions sont fausses. On confond les accidents de la civilisation avec la civilisation elle-même. La civilisation n'a rien à voir dans nos émotions cherchées, dans les tripotages financiers, dans les catastrophes commerciales ou industrielles, dans l'alcoolisation d'un peuple. Nous n'avons pas à nous arrêter sur les éléments qui la constituent, n'ayant à envisager qu'un seul d'entre eux, l'instruction répandue dans les masses.

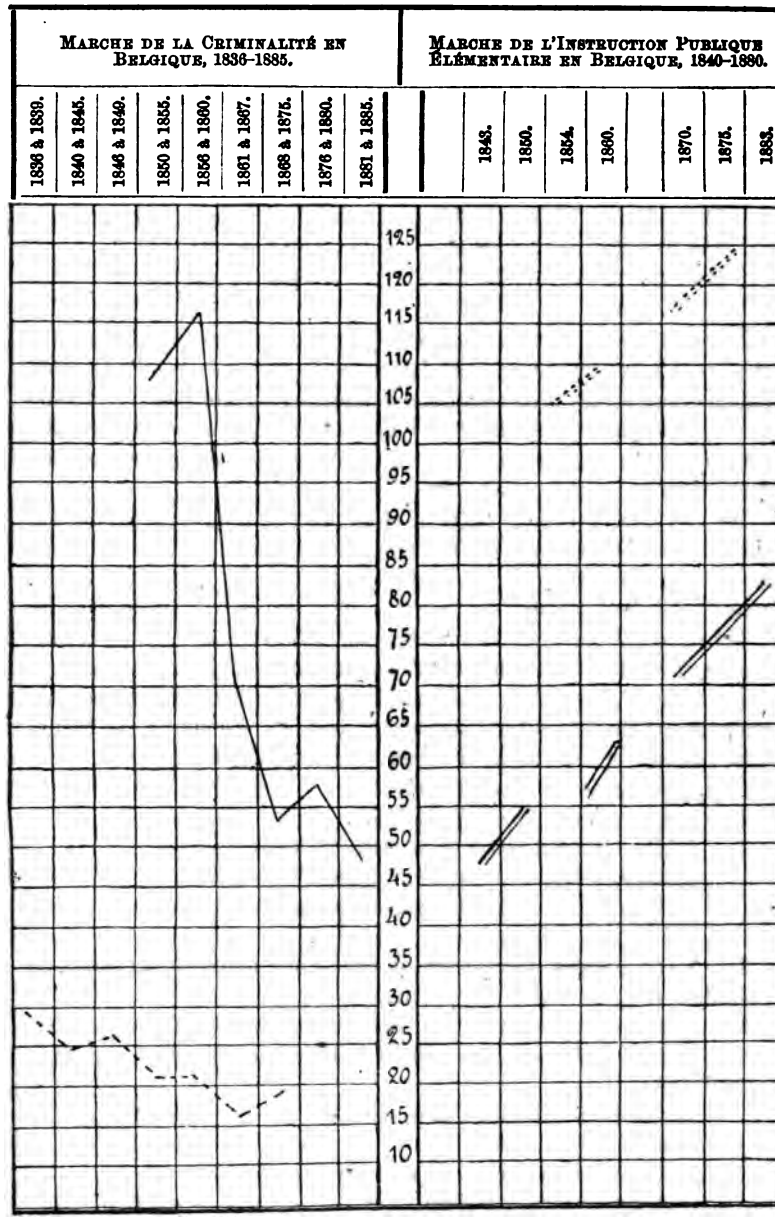
Il ne paraît pas, à première vue, que nous puissions appliquer, vis-à-vis de l'aliénation mentale, à l'avantage de l'instruction, les déductions auxquelles nous sommes arrivés en la mettant en regard de la criminalité.

1° De 1835 à 1878 l'aliénation mentale a suivi un mouvement ascendant en Belgique, une seule période exceptée:—

1835, *un* aliéné sur 816 habitants. 1858, *un* aliéné sur 714 habitants.
1842 „ „ 727 „ 1868 „ „ 594 „
1853 „ „ 920 „ 1878 „ „ 547 „

2° Les renseignements fournis sur les aliénés séquestrés dans les asiles, nous apprennent que le nombre des aliénés instruits est plus élevé que celui des illettrés: la proportion serait de 58·4 °/₀ des premiers, de 41·6 °/₀ des seconds.

3° Enfin parmi les aliénés des villes, on rencontre 62·4 °/₀ de lettrés, tandis que dans les campagnes ceux-ci n'entrent que dans la proportion de 55 °/₀.



Marche des crimes généraux rapportée à 2,000,000 population: ————

Marche des crimes capitaux rapportée à 2,000,000 population: - - - - - - -

Marche de l'instruction élémentaire rapportée à 10 % d'écoliers sur la population: : : : : : : : : : :

Marche du degré d'instruction des miliciens sachant lire et écrire en 100 jeunes gens appelés sous les drapeaux: ═══

Le premier point a toute la brutalité d'un fait acquis. Examinons la valeur du deuxième.

Si l'instruction entre pour une part dans les causes productrices de l'aliénation mentale, on doit rencontrer un fort contingent d'aliénés pendant ou dans les quelques années qui suivent la période des études à tous les degrés. D'après le chiffre de 10,020 aliénés recensés en 1878, nous avo s établi la gradation suivante :—

De moins de 10 ans,	5·3.	De 20 à 30 ans,	143·7.
De 10 à 20 „	38·3.	„ 40 à 50 „	174·4.
Au delà de 60 „	77·7.	„ 30 à 40 „	198·2.
De 50 à 60 „	130·7.		

Le Pr Guislain, de Gand, dans sa longue carrière de médecin et d'aliéniste, n'a pas pu constater au delà d'une trentaine de cas d'aliénation imputables aux seules préoccupations intellectuelles, intéressant d'ailleurs pour une forte part des étudiants au moment des épreuves de l'examen. Encore parmi eux s'en trouvait-il de prédisposés héréditairement ou victimes d'un surménage voulu plutôt que de l'étude.

Ne voit-on pas d'après notre tableau que la plus forte proportion d'aliénés appartient aux âges où les revers se produisent et se font le plus vivement sentir ; où les vices et les passions atteignent leur maximum de développement ?

Mais nous allons montrer directement qu'en bonne logique la proportion qui attribue le moindre contingent d'aliénés aux illettrés doit être renversée. Lorsqu'on veut faire la part de l'instruction dans le développement de l'aliénation mentale, il importe d'éliminer de l'équation les enfants âgés de moins de 7 ans, lesquels ne savent encore ni lire ni écrire ; puis les idiots de naissance.

Des 10,021 aliénés recensés en 1878 :

5,519 n'avaient pas reçu la moindre instruction ;
3,533 possédaient un certain degré d'instruction ;
824 avaien acquis une instruction plus élevée ou supérieure ;
145 n'ont pu être jugés.

Des 5,519 illettrés, doivent être déduits 1,501 idiots de naissance, ce qui réduit à 4,018 le chiffre des premiers

Maintenant la population du Royaume, d'après le recensement général de 1880, s'élevait à 5,520,009 habitants, se répartissant, d'après les calculs, en :—

Enfants de moins de 7 ans - -	966,228
Complètement illettrés - - -	1,306,127
Sachant lire et écrire ou pourvus d'une instruction plus complète - - -	3,187,630

Ces termes déterminés, les résultats sont ceux-ci :—

Aliénés absolument illettrés - - -	2·94
„ d'instruction plus ou moins complète -	1·54

Quant à la troisième proposition, à savoir que parmi les aliénés des villes on rencontre plus de lettrés, 62 °/₀, que dans les campagnes, 55 °/₀, nous ferons observer que l'écart est produit non seulement par le chiffer des lettrés proportionnellement plus élevé à la ville qu'à la campagne, mais par les agitations de la vie urbaine. Ainsi voit-on, au rapport

de Guislain, notamment, l'aliénation mentale moins fréquente dans la classe du clergé que parmi la population des villes. On en peut dire autant au profit de la classe des rentiers et des propriétaires. La raison de ce fait réside à la fois dans l'instruction des individus jointe à l'absence des agitations de l'esprit et des soucis de la vie.

Les causes les plus fréquentes de développement de l'aliénation mentale en Belgique n'ont rien à voir avec l'instruction. En première ligne se présente l'alcoolisme. De 1877 à 1881 inclus, la statistique relève que le nombre de sujets sortis guéris ou amendés des asiles est resté en proportion des entrées, tandis que celui des aliénés alcoolisés s'y est accru de 100, soit de 399 à 498. Viennent ensuite les chagrins de famille, les émotions vives, la jalousie, la haine, l'ambition, les amours contrariées, les déceptions de toute espèce, les excès de veilles, les remords de conscience, les péchés imaginaires, l'exaltation religieuse, etc.

Partout on voit dominer des penchants, des sentiments, des passions; mais non les lumières de l'intelligence.

La progression ascendante des suicides, en Belgique, n'est pas moins marquée que celle de l'aliénation mentale. Et ici encore, on a voulu établir un rapprochement avec le développement de l'instruction.

De 1866 à 1880 le nombre des suicides a gagné le taux de 157 par mille. En considérant deux périodes distantes de 15 années, 1850 à 1860 et 1876 à 1880, nous trouvons pour la première une moyenne annuelle de 3,036 suicides; pour la seconde, de 4,824 (*Statistique du Ministère de la Justice*). En mettant les chiffres bruts en rapport avec la population du Royaume (recensement général de 1856 d'une part, et les deux recensements généraux de 1876 et 1880 d'autre part), nous pouvons établir les deux proportions suivantes: de 1850 à 1860, suicides 0·67; de 1876 à 1880, *id.* 0·88.

Les deux périodes ci-dessus mentionnées comportent 5,448 suicides, dont les causes principales se répartissent ainsi (en 1,000) :—

Aliénation mentale, monomanie, délire, dérangement des facultés intellectuelles	346
Chagrins domestiques	94
Ivrognerie	92
Chagrin et désespoir	71
Misère, perte de fortune, d'emploi, dérangement d'affaires	48
Amour contrarié	18
Débauche	14
Causes diverses	77
Causes non déterminées	240

Si l'on met à part les individus qui ont attenté à leur existence dans la folie, dans un accès d'ivresse, dans un paroxysme de douleur physique ou morale, dans un moment de suprême désespoir—suicides non prémédités—on ne se trouve plus en présence que de gens atteints de quelque émotion maladive, de quelque passion ou en proie à la

débauche. Ces états mêmes ne procèdent pas de l'instruction, mais de certaines conditions économiques, sociales ou d'une éducation faussée.

Loin de contribuer au développement du suicide, l'instruction est au contraire, lorsqu'elle est jointe à une saine éducation, le seul frein à opposer à nos tendances, à nos sentiments, à nos passions. Le suicide est de toute antiquité. On le retrouve chez toutes les nations, même chez les plus dénuées d'instruction, et cela avec une fréquence qui, à certaines périodes, atteignait et dépassait ce que nous voyons de nos jours.

Incriminer l'instruction et même la civilisation, autant vaut accuser d'être homicides la vapeur, par ce qu'elle fait explosion, l'électricité, par ce qu'elle foudroie.

The development of the Reformatory and Industrial School System in England.

BY

Colonel LENOX PRENDERGAST, J.P., Chairman of the Industrial Schools Committee of the London School Board.

Fifty years ago our criminal children were sent to the common gaols. They went in for their first faults, and came out familiar with evil. If the way in which a people treats its children is the measure of its civilisation, certainly our condition and instincts were not high.

About the year 1848, some individual efforts were made to introduce a system of farm-schools for the treatment of juvenile offenders, adopting and following out the plans and ideas of M. Demetz which were being carried out at Mettray in France, under the provision of the French peace code, by which offenders under 16 years of age are held to have acted "sans discernement," that is, without sufficient knowledge of right and wrong, and to require correctional training rather than penal treatment. The Mettray system meant faith in the power of kindness to win confidence, and of trust to create trustworthiness. The effort to work out the Mettray plans and principles upon an English footing received much encouragement from the countenance and assistance of one who always used his great position to further the well-being of our people. I allude to Prince Albert, the Prince Consort of the Queen.

The first awakening to a higher sense, produced the Reformatory Schools Acts. We had come to see, and statesmen had been found to promote legislation in order to provide, that even in treating criminal adults our penal system ought to be penitential; so much more in treating criminal children the system ought to be reformatory. The necessary Acts of Parliament having been passed, a department depending on the Home Office was formed, under which for long years Mr. Sydney Turner formed the outlines of our Reformatory School system.

That gentleman had for some years been working out the adoption of the Mettray system to this country's wants, and no one had greater practical experience to offer to a Government department dealing with what was after all a fresh departure in the treatment of juvenile crime. He was convinced, he tells us, that nothing has been more certainly demonstrated in the practical development of the reformatory system than that juvenile crime has comparatively little to do with any special depravity of the offender, and very much to do with parental neglect and bad example; he therefore utilised as far as possible schools which, while assisted and superintended by the State, are essentially conducted and controlled by voluntary management. This distinguishing feature of the English system he publicly stated, after an experience at the Home Office of 20 years, was in his opinion one of the keystones of its success.

Another and most important element of success must here be touched upon, and I shall use Mr. Sydney Turner's own words in describing how, in this department of education, what is called the religious difficulty has been dealt with in these schools under the Home Office to the satisfaction of all concerned. He says, "Reformatory "training is of necessity essentially based upon religious influences. "Little permanent impression can be made unless a sense of religious "duty is aroused, and religious affections awakened. Mere secular "instruction, and mere formal and dogmatic religious instruction, have "not much result. In many cases the young offenders who enter "reformatory schools have had a fair share of these, can read, write, "and cypher, and are familiar with the technical forms and expressions "of a catechism. They need to have the motives, feelings, and actions "of Christianity brought home to them in plain personal teaching, and "their interest in these awakened; and the teachers and superintendents "of the schools need to be at full liberty, as well as to have the personal "capacity and disposition, to do this as the occasion offers, without the "restrictions which the formal regulations of a time table, and the "cautionary provisions necessary for strictly public and rate-supported "institutions should impose. The provisions of both the Reformatory "and Industrial Schools Acts involve, indeed, that the schools be in a "certain degree denominational, as they secure for the children in "them, when desired, the instruction of ministers of their own "persuasion where they are not of the same religious denomination as "that to which the school belongs, and the conditions imposed in the "rules approved by the Secretary of State protect the children from "being taught or required to learn the distinctive formula of any section "of the Christian church but that to which they or their parents belong; "but the voluntary element in the management of the schools has "effectually removed any practical difficulty, combining men of various "views and denominations on their committees, ensuring freedom of "religious teaching, and keeping this essentially to the plain founda-"tions of practical scriptural instruction in the Protestant schools, and "allowing the Roman Catholic children, who form so large a proportion "of the inmates, to be provided with schools appropriate to themselves,

"and instructed fully in the requirements of their own church." And the present Inspector of Reformatory and Industrial Schools more recently corroborates Mr. Turner's views. He says, "The great element "of success in those schools is without doubt the combination of "voluntary managing committees and Government supervision and "support." "Religious education goes hand-in-hand with secular in "all our schools, as it always must do if real reformation is aimed at. "Roman Catholic children are generally sent to schools of their own "persuasion, but where they are committed to schools under Protestant "management it is always insisted on that their own clergymen shall "have access to them at stated times, and in schools where there are any "number of Catholic children one of the under-masters is always a "Catholic."

The number of reformatory schools at the beginning was small. It steadily increased, as the benefit of the treatment was tested and proved by the steady diminution of committals of children for breaches of the law, as is shown in the returns year by year: for instance, in 1861 there were committed to prison in England 7,373 boys and 1,428 girls, total 8,801; in 1890 the return shows 3,456 boys and 416 girls, total 3,872.

The reformatory schools having at last been established, it soon became evident that such an institution, with all it wise mitigations, was after all a penal system, and the poor children committed by magistrates for trifling thefts were marked for life with a stigma.

To remedy this the Industrial Schools Acts were passed, and the wise mercy of this further mitigation has become manifest every year. No stigma attaches to a child carefully brought up in an industrial school. They were not really responsible for their childish offences. The vices, or negligence, or cruelty of their parents, were the original cause of their faults.

The State, then, having awakened to a sense of its duty towards the neglected portion of the juvenile population, and having provided machinery by which institutions were forthcoming for the reception of the children, a further impulse to the beneficent work was given in the years 1870 and 1876 by provision in the Elementary Education Acts of those years for school boards to carry out The Industrial Schools Acts of 1866. This was effected by constituting them the "local authority" within their districts, under the misleading title of "Prison authority"; and, as soon as they have formally assumed the position thus given to them under the Acts, they may (1) contribute to the maintenance of children sent at their instance to voluntary industrial schools, (2) may contribute towards the cost of the establishment, or the alteration, enlargement, or rebuilding of voluntary industrial schools, (3) may establish industrial schools of their own.

They are also empowered to appoint officers to bring children before a magistrate in order to their being sent to an industrial school.

Reformatory and Industrial Schools are essentially distinct in character, and governed by distinct Acts of Parliament; a school cannot at the same time be both a certified industrial school and a certified

reformatory school. The county industrial schools, formerly maintained by the magistrates, by recent enactments have become institutions under the county councils.

The Treasury contributes towards the custody and maintenance of offenders in reformatory, and of children in industrial, schools on the recommendation of the Secretary of State; but the contribution is so small that, unless a local authority makes up the amount to 7*s*. a week, justice cannot be done to the children, and it is optional with that authority to undertake the necessary duty. It was only after the working of Education Acts had revealed the importance of dealing with this class of children in the great towns, that an impetus was given to gathering these children into the schools according to the provisions of the Industrial Schools Acts. The School Board for London, shortly after its creation, assumed the duties thus conferred by these Acts of Parliament, and when we consider that the population of the Metropolitan area exceeds that of the whole of Scotland, their working of the Acts may be considered a good sample of what is being done generally to carry out these Acts.

The following are the classes of children sent to industrial schools:—

	Section XIV.	Section XV.	Section XVI.
Age.	Under 14.	Under 12.	Under 14.
Description of Offence.	1. Begging or receiving alms. 2. Found wandering, and not having any home or settled place of abode, or proper guardianship, or visible means of subsistence. 3. Found destitute, either being an orphan, or having a surviving parent undergoing penal servitude. 4. Frequenting the company of reputed thieves.	Where the child is charged with an offence punishable by imprisonment, but has not been convicted of felony.	Where the parent or step-parent represents that he is unable to control the child, and that he desires that the child be sent to an industrial school.

By the provisions of the Industrial Schools Acts Amendment Act, 1880, there are added to the above descriptions of children liable to be sent to industrial schools under Section XIV. of the Industrial Schools Act, 1866, the following descriptions, namely:—

Lodging, living, or residing with common or reputed prostitutes, or in a house resided in or frequented by prostitutes for the purpose of prostitution.

Frequenting the company of prostitutes.

A child may also be sent to an industrial school under Section 12 of the "Elementary Education Act of 1876," where an attendance order has not been complied with, and where the parent satisfies the Court that he has used all reasonable efforts to compel the child to attend school.

Children sent by the School Board for London to Industrial Schools.—Children sent during twelve months ended Lady-day, 1890. —The following table shows the number of children sent to industrial schools under sections of the Industrial Schools Acts and of the Elementary Education Act of 1876, during the twelve months ended Lady-day, 1890:—

Industrial Schools Act, 1866.		Industrial Schools Acts Amendment Act, 1880.	Elementary Education Act, 1876.	Total.
Sections XIV.–XV.	Section XVI.			
529	59	18	336	942

These figures include the children sent to Board industrial schools, as well as to schools under voluntary management.

Children sent since 1871.—The following table shows, for each calendar year since 1871 to 1886 inclusive, for the fifteen months ended 25th March 1888, and for the years ended 25th March 1889 and 1890, the number of children who have been sent under the above-named sections:—

Year.	Industrial Schools Act, 1866.		Industrial Schools Acts Amendment Act, 1880.	Elementary Education Act, 1876.		Total.
	Sections XIV.—XV.	Section XVI.		Section XII., following upon XI. (1).	Section XII., following upon XI. (2).	
1871	176	4	—	—	—	180
1872	287	22	—	—	—	309
1873	527	138	—	—	—	665
1874	442	154	—	—	—	596
1875	422	286	—	—	—	708
1876	510	288	—	—	—	798
1877	573	199	—	6	2	780
1878	519	170	—	54	2	745
1879	491	129	—	244	1	865
1880	386	68	—	239	—	693
1881	417	59	7	315	1	799
1882	341	75	7	240	10	673
1883	447	97	50	279	14	887
1884	397	74	47	238	2	758
1885	369	50	28	508	—	955
1886	388	52	7	525	1	973
15 months ended 25th March 1888.	520	68	16	541	11	1,156
Year ended 25th March 1889.	527	71	11	450	—	1,059
Do. 1890	529	59	18	336	—	942
Totals	8,268	2,063	191	3,975	44	14,541

Industrial Schools Act, 1866:—		
Sections XIV. and XV. - - - -	8,268 —	
Section XVI. - - - - - -	2,063 —	10,331
Industrial Schools Acts Amendment Act, 1880:—		
Section I. - - - - -	—	191
Elementary Education Act, 1876:—		
Section XII., following upon Section XI. (1)	3,975 —	
Section XII., following upon Section XI. (2)	44 —	4,019
Grand total - - - -		14,541

Of this total number there remained in the schools at Lady-day last 2,619 children.

In addition to the 14,541 cases which have been sent to industrial schools at the instance of the Board, the Committee have inquired into 14,245 further cases, which have been mainly disposed of as follow:—Some were sent to industrial schools, irrespectively of the Board; some were referred to parish authorities, some were referred to the Reformatory and Refuge Union, and some were referred to the Divisional Committees of the Board for action under the byelaws or the Elementary Education Act of 1876, &c.

Contributions to Voluntary Industrial Schools (*Maintenance*).—Before the Board send a child to a school under voluntary management, there must be an arrangement with the managers of the school. The Board have agreements with 38 industrial schools for boys, and with 21 industrial schools for girls in various parts of the country.

[A copy of the usual form of agreement is given in the Appendix.]

The following table shows the scale of payments made to the voluntary industrial schools for the various classes of children. Briefly, it may be stated that, as a general rule, the Board contribution supplements the Treasury contribution, so as to make a total grant to the school of 7*s.* per child per week, except in the cases of training ships where the total grant is made up to a sum of 8*s.* per week per child:—

—	Board Contributions.					Treasury Contributions.				
	Industrial Schools Act, 1866.			Elementary Education Act, 1876.		Industrial Schools Act, 1866.			Elementary Education Act, 1876.	
	XIV.	XV.	XVI.	XI.(1)	XI.(2)	XIV.	XV.	XVI.	XI.(1)	XI.(2)
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Age 6 to 10 - -	4 0	4 0	5 0	5 0	3 6	3 0	3 0	2 0	2 0	3 6
„ 10 „ 15 - -	3 6†	3 6†	5 0	5 0	3 6	3 6*	3 6*	2 0	2 0	3 6
Over 15 - - -	3 6†	3 6†	5 0	5 0	3 6	3 6*	3 6*	2 0	2 0	3 6
„ having completed 4 years of detention.	4 0	4 0	5 0	5 0	3 6	3 0	3 0	2 0	2 0	3 6

* In cases of schools certified before 1872, this amount is 5*s.*
† In cases of schools certified before 1872, this amount is 2*s.*

Contributions to Voluntary Industrial Schools (Buildings).—During the earlier years of the Board it, was found that the number of places available in voluntary industrial schools was insufficient. The Board accordingly took advantage of the power to contribute towards the establishment, alteration, or enlargement of voluntary industrial schools, so as to secure places to which children might, at their instance, be sent by the magistrates. The total amount so contributed has been 8,450*l.* to 12 schools, with the result that, at present, 720 places are reserved for the Board.

Industrial Schools under the Management of the Board.—The Board have established three industrial schools, namely:—

(*a*) The school at Brentwood, Essex; (*b*) the training ship "Shaftesbury," lying off Grays, Essex; (*c*) the two schools at Upton House, Urswick Road, Homerton, and at Highbury.

The Brentwood Industrial School.—This school is certified for 100 Protestant boys.

The following are the particulars of the annual cost per head for the year ended on the 25th March 1890:—

Average number maintained, 102:			£	*s.*	*d.*
Annual cost per head, including salaries	Gross		28	19	10¾
" " "	Nett		22	7	1
Average weekly cost for provisions	Officers		0	10	7½
" " "	Boys		0	2	7¼

The corresponding figures for the previous year were as follow:—

Average number maintained, 102:			£	*s.*	*d.*
Annual cost per head, including salaries	Gross		25	16	4
" " "	Nett		17	7	9½
Average weekly cost for provisions	Officers		0	10	6
" " "	Boys		0	2	3¾

The above figures show an increase in the annual gross cost per head of 3*l.* 3*s.* 6¾*d.*, and in the nett cost per head of 4*l.* 19*s.* 3½*d.*

The "Shaftesbury" Ship.—This ship is certified for 500 boys (of which number 100 may be Roman Catholics), who must be between the ages of 12 and 14 on admission.

The following are the particulars of the annual cost per head for the year ended on the 25th March 1890:—

Average number maintained, 395:			£	*s.*	*d.*
Annual cost per head, including salaries	Gross		28	3	10¼
" "	Nett		19	18	2¼
Average weekly cost for provisions	Officers		0	11	2½
" "	Boys		0	3	1¾

The corresponding figures for the previous year were as follow:—

Average number maintained, 345:			£	*s.*	*d.*
Annual cost per head, including salaries	Gross		26	9	9¾
" " "	Nett		18	11	3
Average weekly cost for provisions	Officers		0	10	1
" " "	Boys		0	2	5¼

The annual gross cost has increased by 1*l.* 14*s.* 0½*d.* per head, and the nett cost by 1*l.* 6*s.* 11¼*d.* per head.

Similar details in regard to truant schools will be given when we come to treat of cases dealt with under the Education Act.

Having got the children into the schools, the important duty then follows, not only of instructing them, but also of providing means for putting them out in life. Industrial training, which is so prominent a feature in these schools, enabled the inmates to get a start, and a homeless, friendless lad with such capital at his disposal, was able somewhat to hold his own in competition with the general population. The extension, however, of technical instruction in the elementary schools of the country cannot but interfere to some extent with the necessary duty of placing out these children; and it has been the object of recent legislation, though it is not yet in practical operation, to enable those answerable for these institutions to emigrate and to apprentice the children on whom so much time and care has been expended.

The mercantile marine, which should take many of the boys on board the training ships, has of recent years, owing to the decline in the shipping trade, the substitution of donkey engines on board sailing ships for hand labour in hauling ropes and the like, become an uncertain source of disposing of the lads. And the recent labour troubles contribute not a little to the difficulty, since amongst the workmen there is a jealousy of boy-labour as lowering the rate of wages, to say nothing of the desire so prevalent amongst them, that none but members of the union should be taken on in the workshops and on board the ships.

Truant-schools, being of comparatively recent introduction, it may, perhaps, be well to describe somewhat in detail the circumstances that have brought them into existence.

We have seen the class of children who are inmates of reformatory and ordinary industrial schools, and both contemplate a permanent separation of the child from its old haunts. Mere truancy may be the result of want of sufficient control in a respectable home, and, if dealt with early enough, may be cured by a temporary sojourn under strict authority.

The Elementary Education Act of 1876 gave power to send a child to an industrial school for non-attendance at school, and one section of it empowers the managers of industrial schools to license children so sent to live out of such schools after a short detention, not less than a month, conditionally on the children so licensed attending certified efficient schools as day scholars. A special class of industrial schools for the temporary treatment of boys away from their homes has come into existence in several of the large towns of England; and, as my own experience is confined to London, the remarks now made would refer chiefly to what is being done in London for the child population belonging to the elementary schools generally, and not to board schools only.

In London we have two truant-schools located in buildings specially constructed for the purpose and fitted with all recent improvements. They are buildings of the first class. Owing to the short period of detention contemplated in these schools, and to the const

strict supervision consequently required, a large staff has to be maintained in them. Three hours daily are given to school work; efforts are made to interest the boys in their lessons, and to cause them to be as little irksome as possible by making the schoolroom the most cheerful room in the house. The lessons are of a very elementary character; the children from their previous irregular attendance at school, being necessarily very backward. An hour and a half is allowed for recreation, and the time not otherwise occupied in drill. The boys are taken on Sundays to the nearest church (the Roman Catholics to their own place of worship under the charge of an assistant schoolmaster of their own faith), and they are allowed a walk once a week beyond the precincts of the school. The average cost of food per week is 2*s.* 4*d.* for each boy. On admission, each child is provided with a plain working suit, his own clothes being meanwhile fumigated, and, as far as possible, mended and put aside, to be resumed on quitting the school. The schools are under the management of the Industrial Schools Committee of the Board; and in describing this part of the work, I am using the words of Mrs. Westlake, who brought the experience of years on these matters to assist in starting the experiment of these schools, which are now so successful.

The Upton House Truant School has been established to enable the Board to deal with cases of truant boys. Formerly 112 boys could be received; but a separate infirmary having been provided, the rooms in the main building which were used as an infirmary are now used as ordinary dormitories. The school has consequently been certified for 140 boys. The age of admission is between 6 and 14, and the school is generally quite full.

The plan adopted by the Board for dealing with the truants is as follows:—Boys are sent to truant schools by the magistrates, generally until they shall arrive at the age of 16 years, but in some cases for short periods only, viz., for six weeks, or for two, three, or four months. The usual course, when the term of detention is for a sufficiently long period, is to license the child out, at the expiration of about ten weeks, on condition that he attends a certified efficient school regularly. It then becomes the duty of the teacher of the school at which he attends to send a post card to the Head Office on every Friday afternoon, giving particulars of the boy's attendances. If his attendances continue to be perfectly satisfactory for a period of nine months, application is made to the Home Secretary that the boy may be discharged. If, however, the teacher's report shows that the boy has not attended regularly, an officer is at once sent to visit the boy's home, and to warn the parents that if the boy does not attend with perfect regularity the license will be revoked. In many cases this warning is effectual. But should the boy continue to be irregular in his attendance, his license is revoked, and he is taken back to the school. On this occasion his period of detention extends to about three months, after which the boy is again licensed out. If his license is revoked a second time, his next period of detention is still longer. Boys are usually cured of their habits of truancy without any necessity for the revocation of their licenses; but

if, as happens in a few cases, three or four revocations of a boy's license are ineffective, an application is made for the boy's discharge, and fresh proceedings are taken in order that he may be sent by a magistrate to an ordinary industrial school. Originally the Home Secretary was in the habit of agreeing to the *transfer* of such cases—a plan which acted most satisfactorily—but latterly applications for the transfer of boys from truant schools to ordinary industrial schools have been declined, probably to curtail the number of children in industrial schools.

The subsequent attendance of the boys who have undergone the discipline of truant schools, bears very strong testimony to the efficacy of the system in curing truancy. The average attendances of the boys licensed out, for the calendar years 1879 to 1886, inclusive, for the 15 months from the 1st January 1887 to the 25th March 1888, and for the years ended 25th March 1889 and 1890, are as follow :—

1879	88·80	per cent.
1880	84·07	„
1881	91·73	„
1882	90·97	„
1883	90·96	„
1884	74·80	„
1885	95·19	„
1886	94·27	„
15 months end 25th March 1888	91·61	„
Year ended 25th March 1889	88·94	„
Year ended 25th March 1890	91·60	„

Not only are the children that have been through these schools the most regular, but the testimony of the teachers is that they are among the most attentive and the best behaved. The testimony of the parents is equally strong, and their gratitude is often great that their children have been rescued from a path which would have inevitably led to ruin, to be trained up as good and useful citizens by dealing with their delinquency early in life.

The experimental truant school, established at Upton House, having been rebuilt and re-arranged in February 1885, it may be interesting to note the statistics from that date to March 1891.

Total number admitted	1,985
Total number licensed out after an average absence from home of 10 weeks	1,894
Total number of cases in which the license has been revoked	616
Licensed out the second time	577
Second license revoked	226
Licensed out for the third time	208
Third license revoked	92
Licensed out for the fourth time	80
Fourth license revoked	22
Licensed out for the fifth time	17

Fifth license revoked - - -	5
Licensed out for the sixth time - - -	3
Transferred to other schools - - -	8
Discharged - - - -	1,459
Total number remaining in the school - -	138
Licensed out and never re-admitted - -	1,246
(or nearly 63 per cent.)	

The percentage of average attendance compared with the average number on the roll in the public elementary schools of London at Lady-day 1890 was 78. Boys on license, however, from this truant school attend on an average over 90 per cent.!

These figures speak for themselves as to the effect produced on the children brought under the system I have been describing. To those accustomed to the freedom of the streets, the irksomeness of being confined and watched is very great, and they will make a real effort to escape from a renewed experience of what is to them so unpleasant. The thorough daily cleansing of their bodies, the regular food and sleep, little ailments attended to by the medical officer of the school, all these, with constant occupation and discipline, act as an alterative, and, short as the period of detention is, it partakes of the nature of a fresh start for those brought under this altogether new influence.

There are two distinct systems of management at present in existence in truant schools. A third system, based on one which obtains in some of the foreign schools, in which strict and enforced silence forms the leading feature, was proposed some years ago by the London School Board, but did not receive the sanction of the Home Office; it need not, therefore, be alluded to now.

In some of the truant schools of England the treatment is similar to that in an ordinary industrial school, but the detention is rendered more irksome by the substitution, to a great extent, of drill for play. In other schools a system has been approved of by the Home Office in which solitary confinement for a short period after admission forms the principal feature. This lasts only a few days. The boys attend school with the others, but, except when so employed and at exercise, are confined in separate light cells in which they are supplied with work and in which they sleep. The first of these schemes, says the inspector of industrial schools, whose words I am quoting, is the one which I prefer. Solitary confinement works unequally in different boys. The School Board for London, after long experience, finds the best plan is to avoid solitary confinement altogether.

It is not possible to pass by an important addition to the Industrial Schools Acts which was made in the year 1880, for the purpose of dealing with a peculiar class of children whose existence was brought to light as soon as the compulsory powers of the Education Acts came thoroughly to be worked. In explaining the matter to those who are sufficiently interested in child-life to come here on this occasion, I shall use the description (in the very words, if I can) of one of my

colleagues, a lady with whom I have worked for a dozen years at the Industrial Schools Committee, over which I have now the honour to preside in London. Miss Davenport-Hill, whose knowledge of industrial schools generally, and of the working of the Acts which govern them, is greater than that of any one I know, had occasion soon after this amendment Act became law to address a public audience on the subject. She showed that there existed amongst us children who were *growing up* to a life of vice, and that till 1880 the law was powerless to rescue them. The existence of this class, brought to light by the action of the school boards, whose business it was to ascertain what children there were of school age, even in houses of ill-fame, was unknown to the framers of the Industrial Schools Acts as originally framed; consequently no provision was then made for their protection.

The greater number of these children are girls who, unfortunately for themselves and for the nation at large, have a marketable value, and are taken into the abodes of vice with a view to future profit. Some of them, mere infants at entrance, are no more than children, and quite unable to protect themselves. To deal with this evil, the Parliament of this country passed the necessary Bill, for once, without talk, and in a few hours it passed through both houses, and became law. To Colonel Claude Alexander, now Sir Claude Alexander, Bart., a friend of my own, belongs the distinguished honour of producing by his Bill this important though small addition to the legislation for the protection of defenceless children.

The schools that have been established already are chiefly under the management of devoted ladies, who labour personally to set right what is wrong, and to lay the foundations of respectable life not only for the worst cases but for others who, strange to say, have come unscathed out of the demoralizing home. The keepers of these houses in which children have been found dwelling, who fear and hate the interference of public authority, very often send their children away from home, placing them where they are well cared for and sent regularly to school. This cause is sometimes the result of good motives, sometimes, of bad ones. Some keepers really desire that their children should grow up to be respectable members of society, others again wish their daughters, as soon as they are old enough, to follow their parents' detestable trade; but, whichever cause is at work, it is essential to keep those at bay who administer the Industrial Schools Amendment Act of 1880. How far what has just been said is the cause is unknown, but certainly the number of girls' schools for the purposes of this particular Amendment Act has not been required to be increased so much as might have been anticipated. Of course the large proportion of the expense must fall on the public. Parents are, it is true, called upon to contribute, but their contributions will not suffice. At first sight it seems hard that the severely-taxed ratepayers should be called upon to support the children of parents who wilfully neglect them. But a moment's reflection will show that in all relations of life the innocent suffer for the guilty. A little further reflection will show

that expense incurred now will diminish future expense, or even entirely obviate it. No class is so costly to the public as that of prostitutes, and to reduce their number is true economy, without regard to the infinitely more important moral side of the question.

All of us who have taken any part in the management of industrial schools know, to our cost, that there are parents who are willing to part with their children as long as they are a burden; but are anxious to reclaim them when they are valuable. Recent legislation is directed against this evil. Its provisions will not form the slightest bar to intercourse between parents and children, wherever the former sincerely desire the welfare of their offspring; but it will protect the young people from those wretched men and women, not deserving the name of fathers and mothers, who are so utterly degraded themselves that, for the sake of the money their children can bring in, would drag them down to their own miserable level!

In 1876 a fresh class of industrial schools was introduced, called "certified day industrial schools," in relation to which "prison authorities" and school boards have the same powers as in the case of industrial schools, notwithstanding that the children do not reside on the premises. Towards the custody, industrial training, elementary education, and meals of the children attending these schools, Parliament may contribute a sum of 1*s*. per head per week on conditions recommended by the Secretary of State, with a limited power over the contributions of parents. The advocates of this class of schools consider that there are great advantages for poor neglected children of the large cities in sending them to these schools. Within the jurisdiction of the School Board for London, to which my own personal experience is confined, the operation of this provision of the Acts has not yet come into use. I cannot, therefore, speak definitely on the subject. Hitherto the aim of the Board has been, where it meddled with the population, to do what it had to do thoroughly. It will be observed by those conversant with the Industrial Schools Act, that the establishment of schools of this character is a fresh departure; for in all the other classes of schools which we have been considering, the application of the system has been to the individual child. In day industrial schools, areas of population are dealt with, and no child living at a greater distance than two miles from the school can be sent to it.

These schools, at present, are conducted on the system called "mixed," that is, for both boys and girls, and they are administered by women teachers. They differ from ordinary industrial schools in that, though they provide meals for the children and detain them from early morning till six in the evening, they do not lodge the children, and lose all control of them during the 12 hours of the night. They were authorised only by the Education Act of 1876, and, therefore, can be established only in England; and they are regulated by that Act, by Orders in Council, and by orders and regulations for their governance made by the Secretary of State.

In bringing these remarks to a conclusion, I should like to allude to what the Poor Law has been doing towards dealing with the juvenile population. Of course, theoretically, the children in their vast residential schools are supposed to stand on a higher platform than those gathered into industrial schools. Poverty only may be the supposed claim for the admittance of the children into pauper schools; but, practically, the shade of difference is scarcely appreciable, and the question is whether some means cannot be found to admit some of the children with whom the "local authority" has to deal to Poor Law residential schools, when the circumstances of the family point to this as their proper destination.

Time does not admit of pursuing this in detail on the present occasion, nor is it strictly within my instructions to deal with Poor Law questions at all; but I cannot resist expressing a hope that something may bring about some closer inter-communion between these Government Departments presided over by the Home Secretary and the President of the Local Government Board.

As matters stand at present, there are a number of industrial schools which have been brought into existence within the last 20 years, a period which has also witnessed an immense development of the organised treatment of children in the pauper schools. As far as the industrial schools are concerned, they are, individually, in a high state of efficiency, to which they have been gradually brought by the fostering care, the wise forbearance, and sympathetic action of the inspectors of reformatory and industrial schools; but admirable as the schools are, each school is itself, and no more. There is no tie which binds them with others engaged in similar work. They are like a series of excellent and efficient regiments that belong to no brigade, and have not heard of any division of their army with which to be in contact. If the poor residuum of the population of this country is to be raised out of the condition into which it is fallen, this can only be done by dealing directly and at once with those who, in a few years, will be of the adult army of paupers. If a fraction of the 2,000,000*l.* per annum about to be expended in abolishing the fees hitherto contributed by parents for the education of their children in elementary schools were spent in a prompt effort to utilise the industrial school system so as to stamp out the miserable condition into which the population has fallen, the effect on the coming generation would speedily be felt by the community at large.

An offender under 16, convicted of an offence punishable with penal servitude or imprisonment, and sentenced to be imprisoned for 10 days, or for a longer term, may be sent to a certified reformatory school for not less than two, and not more than five, years. A youthful offender under 10 cannot be sent to a reformatory school unless he has been previously charged with some crime or offence punishable with penal servitude or imprisonment, or is sentenced by a judge of assize or court of general or quarter sessions.

Both reformatory and industrial schools are certified by Secretary upon the application of the managers who p

buildings, and administrative cost, and upon satisfactory inspection and report, and subject to periodical visitation by inspectors. In both classes industrial training is an essential feature, so as to engender industrious habits in the inmates, and to give them the means of earning an honest livelihood. Not only local circumstances but reasonable individual inclinations are taken into consideration. In rural districts the cultivation of the soil, and in urban districts local trades, are obvious sources of employment. The duties of a sailor are taught in training ships near the coast.

In Great Britain there are—
55 reformatory schools.
141 industrial schools.
19 day industrial schools.

Cost of Reformatory Schools.			Cost of Industrial Schools.		
Year.	Inmates.	Cost.	Year.	Inmates.	Cost.
		£			£
1859	3,276	72,893	1866	2,462	58,701
1890	5,854	119,336	1890	22,735	360,947

The reformatory school, as the first ground of action when dealing with juvenile delinquents, may be pronounced to be an encouraging success, in that it took them at an early age before they had advanced very far in crime. These schools are not on the increase; on the contrary they may be said to be on the decline: for the great mischief of *mixing* up bad and good, young and old in the reformatory school, led to the establishment of preventive or industrial schools, and the gradual substitution of the industrial and comparatively innocent school for the reformatory school. In the same direction has followed the truant school, raising up an agency for correcting and saving from further contamination and ruin many misguided and foolish lads who in many cases only need a little wholesome discipline and correction to bring them to their senses, and put them straight in the way which they were ready to desert for a career of wilfulness and vicious action.

So in our large manufacturing towns, where families are congregated in factories, much good has been effected by the day industrial school, by taking the vagrant, starving, and neglected children out of the streets and placing them in well-appointed schools where three meals are given every day but Sunday, and wholesome instruction and training are provided. The female influence and authority in these schools is said to be powerful for good with this class of children.

All these efforts seem to follow logically on the first permanent attempt to deal with the young who were going on unchecked and uncared-for in their ignorance and perversity.

These schools *in all their varieties* have been working most beneficially for the last few years; it took time to build them up, but their influence has been really felt. They have let in an immense light upon the whole criminal question and have had a large measure of encouraging success. They would have a still greater share of success if the community at large would take a greater interest in their development and results, and help the managers to place out the children in situations when they are ready for service. "The people" themselves should assist in this important duty, for they more often know of opportunities of employment than persons living in a different sphere of life. All may contribute to prevent young children growing up in vice and misery by some strenuous efforts to save them and utilise them as good citizens.

I have endeavoured within the time at my disposal to give a general survey of what has been attempted in this country to deal with the question of the treatment of juvenile delinquency, and in doing so I have not hesitated to make frequent use of the words of others who may have equal or greater experience of the subject than I possess myself. As a rule, the knowledge of this subject is confined to a few experts, and I would fain enlist a more general sympathy with a work the object of which is, by a more refined treatment, to efface the stigma of the law which up to a recent period pressed so heavily on our poor children.

The mind, and will, and character of a neglected and off-cast child, surrounded day and night with evil, have both a natural and an acquired proneness to evil.

We were rearing children to breaches of the law so long as they were running wild in the streets without the teaching and the discipline of a school. My endeavour in this paper has been to draw attention to what is being done to bring about a better state of things.

APPENDIX.

Appendix VII.

INDUSTRIAL SCHOOLS COMMITTEE.

Copy of usual Form of Agreement with the Managers of Voluntary Industrial Schools.

Articles of Agreement made this day of A.D. 18 between the managers of the being a certified industrial school, under the Industrial Schools Act, 1886 (herein-after called the school), for themselves and their successors in the management of the said school of the one part, and the School Board for London (herein-after called the board) of the other part.

1. On the first day of every calendar month the managers shall notify in writing to the clerk of the board the number of children of between six and 15 years of age whom they will receive into the school, if sent thereto by a magistrate at the instance of the board during the calendar month thence next ensuing, and the managers hereby agree to receive that or any smaller number of children if so sent to the school at the instance of the board within the said month, and the reception by the managers of any such child shall be deemed to be an undertaking by them with regard to that child in accordance with the 18th section of the said Act.

2. The board undertake to pay to the managers (at the times hereinafter mentioned), in respect of each child so sent to the school as aforesaid, during the period of his detention therein, or until the withdrawal or resignation of the certificate of the school takes effect, or until the contribution out of money provided by Parliament towards the custody and maintenance of children detained in the school is discontinued (whichever shall first happen), such a sum of money per week, as will, with the sum of money which shall from time to time be contributed per week by the commissioners of Her Majesty's Treasury in respect of the same child, make up the total sum of 7*s.* per week. And the managers undertake to pay to the board any sum or sums of money which shall from time to time be paid to them by the said commissioners in respect of the same child, under the provisions of the 40th section of the said Act.

3. The board also undertake to pay to the managers the sum of 3*l.* towards the management of the school, in respect of each child received by the managers under this agreement within three months after such child shall have left the school. Provided always that if such child shall not have been by the managers placed in some situation, or otherwise disposed of, to the satisfaction of the board, then the managers shall forfeit all claim to the said sum of 3*l.*

4. The managers shall make up their accounts against the board in a form to be supplied by the board, up to the end of the months of February, May, August, and November, and shall deliver the same to the board before the 8th day of the respective following months, and the board shall pay the amount, which shall be due from them, within 21 days after the due delivery of each account in manner aforesaid.

5. The managers shall not permit any child sent to the school under this agreement to lodge out of the school, in accordance with the provisions of the 26th section of the Act, or to live out of the school under license, in accordance with the provisions of the 27th section, without the consent first obtained of the board, or of some committee or officer of the board duly authorised in that behalf.

6. The managers shall, once in every year of our Lord, send to the board a report in writing (in a form to be supplied by the board) stating such particulars with regard to each of the said children, as the board shall from time to time require.

7. If a child shall have been discharged from, or shall have left the school, the particulars of the discharge from, or cause and manner of leaving the school, and how he has been disposed of, shall be sent to the board by the managers on the next succeeding day on which the notification mentioned in clause 1, is to be given.

8. The board shall be at liberty to appoint an inspector of the children, and such inspector may visit the school and examine the said children at all reasonable times in the daytime.

9. It shall be a sufficient reason for the refusal of the managers to receive any child so sent to the school as aforesaid, that such child is suffering from a contagious or incurable disease, or from such a bodily or mental defect as will prevent him from earning his own livelihood, and the certificate in writing of a surgeon appointed by the managers,

shall be sufficient evidence that the bodily or mental condition of the child is such as is stated in the certificate.

10. In this agreement female children are included wherever male children are mentioned.

In witness whereof this agreement has been signed by the clerk of the School Board for London, acting under a resolution of the board passed at a meeting held on the day of and by two of the managers of the said school, acting under a resolution of the managers passed at a meeting held on the day of

Managers of

Clerk of the School Board for London.

Cost of the Department.—The following table gives the total cost of the Industrial Schools Department of the London School Board, for the years ended on the 25th March 1888, 25th March 1889, and 25th March 1890 respectively:—

	Year ended 25th March 1888.		Year ended 25th March 1889.		Year ended 25th March 1890.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
(i.) Maintenance of children in Schools under voluntary management -	17,252 12 1		13,158 2 11		17,239 5 6	
Salaries of officers -	751 11 2		779 11 10		770 7 11	
Advertising, travelling, and other expenses - -	319 5 11		343 3 7		350 12 0	
*Proportion of salaries of head office staff from 29th Sept. 1887 - -	409 19 6		813 18 4		906 19 9	
		18,732 8 8		15,094 16 8		19,267 5 2
(ii.) Management of the Board Industrial Schools—						
Brentwood -	2,619 19 2		2,326 13 3		2,598 17 2	
"Shaftesbury" -	9,639 19 9		9,109 10 4		11,110 2 8	
Upton House -	2,417 7 10		2,517 15 6		2,602 14 7	
Do. Furniture for new building	Nil.		95 1 5		63 10 2	
		14,697 6 9		14,049 0 6		16,375 4 7
		33,429 15 5		29,143 17 2		35,642 9 9

* This expenditure was included up to the 29th Sept. 1887, in the ordinary head office expenses, but, in accordance with the arrangements since made by the Board, an apportioned amount of the general office expenditure has been included in this year's statement.

RETURN respecting REFORMATORY and INDUSTRIAL SCHOOL SHIPS from 1886 to 1890, inclusive.

ENGLAND AND WALES.

Name of Ship and Captain; also Name of Tender, if any; distinguishing Reformatory Ships from Industrial.	Where Stationed.	Number of Boys committed to each Ship in each Year.			Number of Boys Discharged from each Ship in each Year, and Average Time under Training.	How disposed of.				Number Physically Unfitted for Sea Life of those received on board annually.	Number of Boys which each Ship can accommodate for Training.	Number of Boys borne in each Ship on 31st December, 1890.	Number and Nature of Staff on Board each Ship for Purposes of Instruction, exclusive of Captain; Status or Rank of Second in Command, if any; distinguishing Seamen Instructors from Civilian.
			Under 12 Years.	Over 12 Years.		To Sea.	Army.	To Shore Situations.	Emigrated.				
"CORNWALL."													
Reformatory School Ship	Purfleet, Essex.	1886	—	89	101	58	6	30	1	6	250	204	1 chief officer, Lieutenant G. Gordon, R.N.
Captain A. Morrell, R.N.		1887	—	91	113	58	1	52	—	2			2 schoolmasters.
		1888	—	83	77	46	—	26	—	5			1 chief seamen instructor.
Ship's launch used as practice for training.		1889	—	66	67	36	4	26	—	1			6 seamen instructors.
		1890	—	67	99	63	2	29	—	5			1 bandmaster.
					Average 2 years and 9 months								1 cook.
													2 carpenters.
													1 clerk.
TOTALS - -	- - -	—	—	396	457	261	13	163	1	19	250	204	15 {8 seamen. {7 civilians.
"AKBAR."													
Reformatory School Ship	Rock Ferry, Liverpool.	1886	—	54	34	16	2	7	1	2	200	172	1 chief officer, chief boatswain, R.N.
Commander E. Hicks, R.N.		1887	—	46	59	37	—	14	—	—			6 seamen instructors.
		1888	—	50	55	25	—	14	—	4			1 chaplain.
No Tender.		1889	—	74	48	29	1	12	—	2			2 schoolmasters.
		1890	—	52	35	21	1	10	—	2			1 master tailor.
					Average, 3 years.								1 cook.
													1 carpenter.
TOTALS - -	- - -	—	—	276	231	128	4	57	1	10	200	172	13 {7 seamen. {6 civilians.

Return respecting Reformatory and Industrial School Ships from 1886 to 1890, inclusive—England and Wales—*continued.*

Name of Ship and Captain; also Name of Tender, if any; distinguishing Reformatory Ships from Industrial.	Where Stationed.	Number of Boys committed to each Ship in each Year.			Number of Boys Discharged from each Ship in each Year and Average Time under Training.	How disposed of.				Number Physically unfitted for Sea Life of those received on board annually.	Number of Boys which each Ship can accommodate for training.	Number of Boys borne in each Ship on 31st December, 1890.	Number and Nature of Staff on Board each Ship for Purposes of Instruction, exclusive of Captain; Status or Rank of Second in Command, if any; distinguishing Seamen Instructors from Civilian.
			Under 12 Years.	Over 12 Years.		To Sea.	Army.	To Shore Situations.	Emigrated.				
"CLARENCE."													
Reformatory School Ship	New Ferry, near Liverpool.	1886	2	45	56	27	—	29	—	5	300	184	1 chief officer, retired boatswain, R.N.
		1887	5	63	60	45	—	15	—	1			8 seamen instructors (naval pensioners).
Commander E. P. Statham, R.N.		1888	1	67	36	25	—	11	—	2			2 schoolmasters (civilians).
		1889	2	50	59	47	—	11	1	2			
		1890	3	31	50	44	—	5	1	1			
					Average, 3 years and 6 months.								
Totals		—	13	256	261	188	—	71	2	11	300	184	11 { 9 seamen. 2 civilians.
"CLIO."													
Industrial School Ship	Off Garth Ferry, Menai Straits, Bangor, North Wales.	1886	—	74	76	47	—	29	—	—	280 but only licensed for 250.	234 committed, 31 voluntary.	1 chief officer, quartermaster, R.N.
		1887	—	70	96	55	—	41	—	1			7 seamen instructors.
Captain W. M. Moger, R.N.		1888	—	78	59	31	—	28	—				1 gunnery instructor.
		1889	—	79	65	36	—	29	—	1			3 schoolmasters.
No Tender.		1890	—	55	68	42	—	26	—	4			2 carpenters.
													1 cook.
													1 clerk.
													1 shoemaker.
													1 sick ward attendant.
													1 night watchman.
					Average, 3 years and 3 months.								1 Liverpool shipping agent.
Totals		—	—	356	364	211	—	153*	—	11	280	265	20 { 9 seamen. 11 civilians.

* Forty-two of these since gone to sea.

RETURN respecting Reformatory and Industrial School Ships from 1886 to 1890, inclusive—ENGLAND AND WALES—*continued.*

Name of Ship and Captain; also Name of Tender, if any; distinguishing Reformatory Ships from Industrial.	Where Stationed.	Number of Boys committed to each Ship in each Year.		Number of Boys Discharged from each Ship in each Year, and Average Time under Training.	How disposed of.				Number Physically Unfitted for Sea Life of those received on board annually.	Number of Boys which each Ship can accommodate for Training.	Number of Boys borne in each Ship on 31st December, 1890.	Number and Nature of Staff on Board each Ship for Purposes of Instruction, exclusive of Captain; Status or Rank of Second in Command, if any; distinguishing Seamen Instructors from Civilian.
		Under 12 Years.	Over 12 Years.		To Sea.	Army.	To Shore Situations.	Emigrated.				
"MOUNT EDGCUMBE."												
Industrial School Ship Captain H. P. Knevitt, R.N. No Tender.	Saltash, River Tamar.	1886 1 1887 4 1888 3 1889 3 1890 2	78 55 61 84 64	62 91 83 64 62 Average, 2 years and 9 months.	23 20 18 18 21	13 11 7 3 1	— — — — 2	— 4 5 7 5	3 2 5 — 2	250	202	1 chief officer, gunner, R.N. 3 seamen instructors. 1 gunnery instructor. 2 schoolmasters. 1 carpenter. 1 tailor. 1 shoemaker. 1 cook. 1 bandmaster.
TOTALS	—	—	13	342	362	100	35	2	21	12	250	202	12 { 5 seamen. 7 civilians.
"WELLESLEY."												
Industrial School Ship Commander H. C. D. Ryder, R. N.	North Shields, River Tyne.	1886 35 1887 45 1888 49 1889 28 1890 16	24 33 51 45 66	69 83 85 74 81 Average, 3 years.	56 64 58 57 54	2 — 3 2 —	1 1 8 9 14	— — — — —	— — — — —	300	296	1 chief officer. 1 second officer. 3 seamen instructors. 1 gunnery instructor. 1 men's schoolmaster. 3 assistants. 1 tailor. 1 shoemaker. 1 bandmaster. 1 band serjeant.
TOTALS	—	—	173	219	392	289	7	33	—	—	300	296	14 { 6 seamen. 8 civilians.

RETURN respecting Reformatory and Industrial School Ships from 1866 to 1890, inclusive—ENGLAND AND WALES—*continued.*

Name of Ship and Captain; also Name of Tender, if any; distinguishing Reformatory Ships from Industrial.	Where Stationed.	Number of Boys committed to each Ship in each Year.		Number of Boys Discharged from each Ship in each Year, and Average Time under Training.	How disposed of.				Number Physically Unfitted for Sea Life of those received on board annually.	Number of Boys which each Ship can accommodate for Training.	Number of Boys borne in each Ship on 31st December, 1890.	Number and Nature of Staff on Board each Ship for Purposes of Instruction, exclusive of Captain; Status or Rank of Second in Command, if any; distinguishing Seamen Instructors from Civilian.
		Under 12 Years.	Over 12 Years.		To Sea.	Army.	To Shore Situations.	Emigrated.				
"SHAFTESBURY."												
Industrial School Ship -	Grays, River Thames, Essex.	1886 —	116	187	85	10	14	1	1	500	400	1 chief officer, petty officer, R.N. 5 seamen instructors. 5 schoolmasters. 1 bandmaster. 1 mechanic. 1 tailor. 1 carpenter. 1 cook. 1 shoemaker.
Lieutenant D. Scriven, R.N.		1887 —	126	164	71	12	11	—	2			
Captain Superintendent.		1888 —	141	126	48	5	7	—	3			
		1889 —	147	99	40	4	5	—	—			
Tender, Schooner "Themis."		1890 —	143	138	72	9	6	—	—			
				Average, 3 years.								
TOTALS - -	- - -	—	—	673	316	39	43	1	6	500	400	17 {6 seamen. {11 civilians.
"FORMIDABLE."												
Industrial School Ship -	Portishead, Somerset	1886 55	51	96	59	—	14	7	9	350	342	1 chief officer, gunner's mate, R.N. 8 seamen instructors. 5 schoolmasters. 1 tailor. 1 shoemaker. 1 carpenter. 1 cook.
Captain R. B. Nicholetts, R.N.		1887 40	45	111	80	—	16	1	11			
		1888 48	54	87	64	—	14	1	4			
		1889 60	56	109	77	—	20	1	6			
Tender, "Polly."		1890 43	61	112	87	—	15	1	6			
				Average, 3¼ years.								
TOTALS - -	- - -	—	246	267	515	367	—	79	11	36	350	342	18 {9 seamen. {9 civilians.

RETURN respecting Reformatory and Industrial School Ships from 1886 to 1890, inclusive—ENGLAND AND WALES—*continued.*

Name of Ship and Captain; also Name of Tender, if any; distinguishing Reformatory Ships from Industrial.	Where Stationed.	Number of Boys committed to each Ship in each Year			Number of Boys Discharged from each Ship in each Year, and Average Time under Training.	How disposed of.				Number Physically Unfitted for Sea Life of those received on Board annually.	Number of Boys which each Ship can Accommodate for Training.	Number of Boys borne in each Ship on 31st December 1890.	Number and Nature of Staff on Board each Ship for purposes of Instruction, exclusive of Captain; Status or Rank of Second in Command, if any; distinguishing Seamen Instructors from Civilians.
			Under 12 Years.	Over 12 Years.		To Sea.	Army.	To Shore Situations.	Emigrated.				
"SOUTHAMPTON."													1 chief officer.
Industrial School Ship -	Hull, River Humber.	1886	23	30	63	30	—	31	—	2			1 2nd officer.
		1887	24	30	65	28	—	33	1	3			4 seamen instructors.
Rear-Admiral George D. Broad, R.N., Captain Superintendent. -		1888	32	30	73	49	—	22	—	2	250	237	2 schoolmasters.
		1889	41	38	61	34	—	26	—	1			1 bandmaster.
		1890	36	37	66	29	1	34	—	2			1 shoemaker.
					Average, 4 years.								2 tailors.
Tender, "Ripple."													1 carpenter.
													1 cook.
TOTALS - -	- - -	—	156	165	328	170	1	146	1	10	250	237	14 { 6 seamen. 8 civilians.

C. B. STUART-WORTLEY.

SCOTLAND.

"EMPRESS."													1 chief officer, lieutenant, R.N.
Industrial School Ship -	Gareloch, River Clyde, off Row, N.B.	1886	29	94	125	76	1	1	1	5			1 chief gunner, R.N.
		1887	29	105	142	92	2	3	4	1			6 seamen instructors.
Commander G. S. Deverell, R.N.													4 schoolmasters.
		1888	38	102	118	85	4	7	1	4	400	392	1 bandmaster.
Tender, "Cumbria," Brig.													1 assistant bandmaster.
		1889	32	73	125	93	1	12	1	4			1 tailor.
													1 mechanic.
		1890	58	86	131	78	3	5	1	8			1 carpenter.
					Average, 3¼ years.								1 master-at-arms.
													2 night watchmen.
													1 shipping agent.
													1 hospital attendant.
TOTALS - -	- - -	—	186	460	641	424	11	28	8	22	400	392	22 { 8 seamen. 14 civilians.

RETURN respecting Reformatory and Industrial School Ships from 1886 to 1890, inclusive—QUANTITY—continued.

Name of Ship and Captain; also Name of Tender, if any; distinguishing Reformatory Ships from Industrial.	Where Stationed.	Number of Boys committed to each Ship in each Year.		Number of Boys Discharged from each Ship in each Year, and Average Time under Training.	How disposed of.				Number Physically Unfitted for Sea Life of those received on Board annually.	Number of Boys which each Ship can Accommodate for Training.	Number of Boys borne in each Ship on 31st December 1890.	Number and Nature of Staff on Board each Ship for purposes of Instruction, exclusive of Captain; Status or Rank of Second in Command, if any; distinguishing Seamen Instructors from Civilians.
		Under 12 Years.	Over 12 Years.		To Sea.	Army.	To Shore Situations.	Emigrated.				
"MARS."												1 chief officer, 1st class petty officer, R.N.
Industrial School Ship -	Dundee, River Tay, N.B.	1886	27	118	123	64	8	46	1	3		5 seamen instructors.
Commander C. C. Scott, R.N.		1887	18	89	111	38	3	61	5	4		1 master-at-arms.
		1888	36	102	137	69	2	61	1	2	400	1 merchant seamen.
Tender, "Francis Molison," Brig.		1889	29	92	132	49	7	68	6	2		4 schoolmasters.
		1890	35	107	134	72	10	40	—	6		1 gymnastic instructor.
					Average, 3 years.							2 carpenters.
												2 tailors.
												1 shoemaker.
												1 bandmaster.
												1 cook.
												1 officers' steward.
												1 shore gardener.
												1 mechanic.
												1 sick attendant.
TOTALS - -	- - -	—	145	508	637	292	30	276	13	17	400	399	24 { 8 seamen. 16 civilians.

W. INGLIS.

IRELAND.

"GRAMPIAN."												Staff, 14 in number.
Industrial School - -	Belfast Lough, Ireland.	1886	35	19	67	10	—	36	1	16		Second in command, master mariner.
		1887	25	20	70	16	3	31	—	11		Seamen instructors, 3, naval pensnrs.
Captain E. F. Kerby, R.N.		1888	51	19	52	6	1	28	—	22	350	Gunnery instructor, 1, naval pensr.
		1889	45	26	57	8	—	31	2	15		Tailor instructor, 1, civilian.
No Tender.		1890	50	23	56	8	—	29	1	15		Shoemaker instructor, 1, civilian.
					Average, 4 to 5 years.							Carpenter instructor, 1, civilian.
												Schoolmaster, 1, civilian.
												Assistant schoolmaster, 1, civilian.
												Bandmaster instructor, 1, army pensr.
												Clerk and Storekeeper, 1, naval pensr.
												Cook, 1, naval pensioner.
TOTALS - -	- - -	—	206	107	302	48	4	155	4	79	350	250	Engineer, 1, civilian.

ROWLAND BLENNERHASSETT.

Reformatory and Industrial Schools Act, 1891.

[54 & 55 Vict. Ch. 23.]

CHAPTER 23.

An Act to assist the Managers of Reformatory and Industrial Schools in advantageously launching into useful Careers the Children under their Charge. 3rd July 1891.

BE it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows :

Power to apprentice or dispose of Child.

1. If any youthful offender or child detained in or placed out on license from a certified reformatory or industrial school conducts himself well, the managers of the school may, with his own consent, apprentice him to, or dispose of him in, any trade, calling, or service, or by emigration, notwithstanding that his period of detention has not expired, and such apprenticing or disposition shall be as valid as if the managers were his parents.

Provided that where he is to be disposed of by emigration, and in any case unless he has been detained for twelve months, the consent of the Secretary of State shall also be required for the exercise of any power under this section.

Short Title and Extent of Act.

2. This Act may be cited as the Reformatory and Industrial Schools Act, 1891, and it shall not apply to Ireland.

L'Enfant à Tendances Criminelles ou place dans un Milieu Criminel.

PAR

THÉOPHILE ROUSSEL, Sénateur, PARIS.

L'examen de la question posée sous le titre "*l'Enfant dans des conditions anormales*" m'a conduit, pour l'enfant pauvre, non perverti et dont la famille est honnête, a cette conclusion : que le meilleur régime est la vie de famille où des secours doivent être donnés ; que, si la famille manque ou ne peut garder l'enfant, le meilleur régime est celui du placement dans une autre famille honnête où il est maintenu dans les conditions de la vie commune.

L'examen de la seconde partie de la question aboutit, au contraire, a cette conclusion : que les enfants à tendances criminelles ou placés dans un milieu criminel, ont besoin d'une éducation spéciale et séparée, et même qu'ils doivent être exclus de la vie commune, lorsqu'il est bien constaté qu'ils lui sont impropres.

Le Programme du Congrès pose la question de "*leur éducation* "*dans les Écoles industrielles ou de réforme, et des effets de la loi de* "1880*; amendant la loi sur les Écoles industrielles.*"

Ces termes visent uniquement, comme on le voit, les institutions anglaises. On ne saurait s'en plaindre, car la Grande Bretagne avec ses *Écoles de Réforme* et ses *Écoles industrielles*, possède aujourd'hui tant pour *l'Éducation correctionnelle* que pour *l'Éducation préventive*, le système le plus complet et le plus satisfaisant par ses résultats.

Les progrès de la criminalité dans le jeune âge, devenus effrayants, chez les peuples les plus civilisés, ont nécessité partout des mesures particulières de préservation sociale. A une époque où ce péril social était encore peu senti, la France avait fait un pas remarquable par le vote de la *loi du 5 août*, 1850, *sur l'éducation et le patronage des jeunes détenus*, et la création des *colonies agricoles*. Les principes de cette loi furent bientôt adoptés partout, et l'Angleterre créa les *Reformatories* pour ses jeunes délinquants ; mais elle ne s'en est pas tenue là. Adoptant un autre modèle que l'État de New-York lui offrait, depuis 1853, pour les enfants non encore délinquants ou criminels, mais disposés à le devenir par les conditions de leur existence, elle créa, en 1857, *l'École industrielle*, établissement destiné à prévenir l'action de la justice répressive, plustôt qu'à organiser la répression. Les deux *Acts* mémorables du 10 août, 1866, ont fait de ces institutions un système à l'aide duquel la société anglaise se considère aujourd'hui comme armée efficacement pour arrêter les progrès du crime dans ses jeunes générations. Lorsqu'en 1880, les pouvoirs publics ont jugé bon d'amender ces lois, le Ministre de l'Intérieur d'alors, Sir William Harcourt, a reconnu le bien fondé de cette affirmation, souvent répétée depuis, que "l'école industrielle a arrêté le développement de la criminalité juvénile en Angleterre."

Si l'on cherche quel est, dans les institutions dont je parle, le fait particulier auquel ces succès peuvent être attribués, on reconnaît que ce n'est pas à un apprentisage industriel spécial, mais au pouvoir de détenir les enfants, tout le temps nécessaire à leur éducation, non obstant leurs parents ou tuteurs. L'école industrielle est un établissement d'éducation et d'apprentisage avec droit de garde et de correction sur les enfants qu'elle reçoit.

Ce qu'on reprochait surtout aux lois de 1866, c'était d'avoir admis des classifications défectueuses qui amenaient en pratique, une sorte de pêle-mêle des enfants. Au Congrès international de Stockholm, en 1878, avant la nouvelle loi d'amendement, ce reproche était repoussé par deux hommes très compétents, M. Alfred Hill et le Dr. Mouat, qui soutinrent que les seuls coupables étaient placés régulièrement dans les *Reformatories* tandis que les vagabonds étaient reçus dans les Écoles Industrielles et les simples pauvres dans les Écoles de Workhouses ou de Districts. Un anglais, non moins autorisé, qui prit part à ces discussions, M. Barwick-Baker, se montrait moins préocupé des catégories à établir que de la nécessité de séparer tout-à-fait, dans des Reformatories, les enfants vicieux de toute espèce :—"J'appelle l'attention," disait-il, "sur " notre systême de ne prendre que les plus mauvais. Si une épidémie " se déclare dans une ville et que j'offre d'emmener hors du pays 100 " personnes pour les soustraire à la maladie, je ne ferais que peu de " bien ; mais si je puis trouver et conduire hors de la ville tous ceux

" qui sont atteints et les mettre dans l'impossibilité de communiquer " avec qui que ce soit, que de vies ne sauverais-je pas ? "

En réalité pour défendre efficacement la société contre l'envahissement du crime, il faut éviter de s'enfermer dans un système. Parmi les mineurs non susceptibles de l'éducation commune, il y a les incorrigibles, les vicieux, et, comme je le dirai plus loin, les *incurables* qui doivent être soigneusement séparés des autres, sous un régime exceptionnel; pour tous ceux qui sont susceptibles de réformation et d'amélioration la règle que l'éxperience impose c'est de les classer par catégories, moins d'après les actes qui les ont fait sortir de la vie commune que d'après leur âge et surtout d'après une appréciation attentive de la nature morale. Cette règle doit servir pour le partage à faire entre le personnel des écoles de réforme et celui des écoles industrielles, et pour le classement à opérer dans chacun de ces personnels. Cette vérité n'était pas méconnue avant l'Act d'amendement de 1880, et j'en citérai pour preuve la création par le *School Board* de Londres d'une école industrielle pour 50 enfants indisciplinés (*Industrial School for Truant Boys*), soumis au régime suivant :—Règlement inflexible, écartant les peines corporelles, excepté dans les cas d'absolue nécessité, substituant aux jeux ordinaires les exercises militaires; imposant absolument le silence, la propreté, l'ordre, l'observation des heures, et donnant par le calme, la fermeté du traitement et la haute autorité morale du chef de l'institution l'impression de l'inutilité de toute résistance; une surveillance attentive de jour et de nuit complétait ce régime.

Il faut donc admettre que pour tous les enfants que leur corruption précoce, leur perversité native, ou des actes criminels doivent exclurer de l'éducation commune, les systêmes d'éducation correctionnelle où d'éducation préventive sont subordonnés à cette nécessité d'avoir des établissements de types variés d'après l'âge et la qualité morale, si je viens aussi parler, des enfants.

J'ai nommé, en passant, les vicieux, les incorrigibles, les incurables. J'y reviens en finissant, parceque le plus redoubtable fléau de nôtre temps, l'alcoolisme, par ses effets héréditaires et les dégénérescences qu'il entraîne, donne à cette classe de mineurs, dangereuse entre toutes, une importance numérique qui va croissant dans certains milieux. Lorsqu'on parle du péril social causé par la progression de la criminalité juvénile il n'est pas possible d'éviter cette question là. Le Règlement du Congrès m'interdit de la traiter. Je veux soumettre seulement, sans discuter, quelques propositions au Congrès.

On peut partager en deux catégories les sujets dont je parle et comme ils n'appartiennent pas par leur état moral, ni même souvent par leur constitution physique à la partie saine de l'humanité, il y a lieu de séparer ceux qui sont *curables* par une éducation appropriée de ceux qui sont *incurables*.

La première catégorie abonde, en tous pays, dans les maisons d'éducation correctionelle, où elle porte le trouble et trop souvent la démoralisation. Ce sont ces mauvais sujets, toujours prêts à malfaire et rebelles à toute bonne discipline, ces natures nativement réfractaires aux lois de l'ordre moral et social ne peuvent être pliées et constraintes

que par un régime exceptionnel dans lequel une force extérieure, d'une action irrésistible, contient les impulsions instinctives, prend la place de la volonté, entraîne la pensée elle-même, en réglant tous les actes de la vie. Assurément tous ces manvais sujets ne sont pas dignes de faire partie de l'armée ou de la marine; il n'est pas moins vrai que c'est dans l'emploi sévère des règles de la discipline militaire ou maritime qu'il faut chercher et qu'on a trouvé jusqu'ici les meilleurs résultats. L'histoire des *Training Ships*, comme celle des compagnies de discipline, ou même des sociétés, qui s'occupent de l'engagement des jeunes détenus dans l'armée prouvent qu'il faut marcher et avancer le plus possible dans cette direction.

L'alcoolisme a une part considérable dans la génése de ces mauvais sujets, et j'en citérai comme exemple les résultats d'une enquête récente du Conseil fédéral suisse qui établissent que dans les maisons de correction de jeunes détenus de ce pays, la moitié des garçons et la moitié des filles sont issus des parents alcooliques. C'est aussi à l'alcoolisme, à la dégénérescence, ceux dont il est la source qu'il faut attribuer surtout la multiplication redoutable de ces sujets qui appartiennent tout-à-fait à la pathologie humaine, que j'ai appelé les incurables, et que les medecins aliénistes, à l'examen des quels la justice les livre après leurs actes criminels ont appelés les *instinctifs*, les *dégéneres*. Ce qui caractérise ces sujets c'est la précocité des instincts criminels, l'absence de résistance à ces instincts et l'impossibilité de participer aux actes de la vie sociale sans s'y manifester par des actes criminels. Traduits devant la justice les mineurs de cette espèce sont ordinairement déclarés irresponsables, et c'est sur les conséquences de cette déclaration que je veux ajouter encore quelques mots qui s'appliquent bien moins à l'Angleterre qu'à d'autres pays.

En Angleterre lorsque l'auteur de certains actes qualifiés *crimes* comparaît aux assizes, si le jury déclare que le coupable est "*of unsound mind*" ce coupable est acquitté; mais la société n'est pas du même coup, condamnée, comme elle l'est ailleurs, à souffrir du renouvellement des mêmes actes criminels. Considéré comme malade, comme aliéné dangereux, l'individu acquitté est enfermé dans un asile spécial, d'où une déclaration de guérison par le médecin ne suffit pas pour le remettre en liberté. Il y est placé "*sous le bon plaisir de la Reine*," c'est-à-dire, que le pouvoir public a sa main mise sur lui indéfiniment et qu'à moins de garantie, dont ce pourvoi est le seul juge, il reste bannis pour toujours de la société.

Je ne veux pas rechercher s'il n'est pas fait abus, dans les procès criminels, de l'excuse d'irresponsabilité. Je ne veux pas m'élever contre une appréciation qui ne relève que de la science, mais en présence du détriment qui en résulte pour la société, je ne puis m'empêcher de réclamer, suivant l'exemple de l'Angleterre, des mesures protectrices, dont je voulais pour mon compte étendre le principe et l'application à tous les individus criminels ou dangereux, reconnus irresponsables, à quelqu'âge, à quelque sexe, à quelque catégorie sociale qu'ils appartiennent. J'admets la parfaite justice des sentences, qui, même après de grands crimes, exempte les mineurs de cette espèce du dernier supplice, ou

même de chatiement ; mais c'est un sentiment d'humanité bien aveugle et mal fondé que celui, qui, permettant leur retour, tôt ou tard, à une vie de relations pour laquelle ils ne sont pas faits, sacrifie à leur liberté l'intérêt social doublement lésé par de nouveaux attentats contre les autres citoyens, et par la propagation de tares héréditaires dont le propre est de s'aggraver toujours.

Je dois m'arrêter devant l'examen detaillé des mesures pratiques à appliquer. Il me suffisait d'ailleurs d'en voir admettre le principe. J'ai insisté sur la nécessité du classement et des séparations pour le succès de l'éducation correctionnelle et de l'éducation préventive de tous les sujets educables soumis à ces régimes particuliers. Je ne pouvais pas passer sous silence la catégorie des non-éducables et je n'ai pas cru devoir reculer devant la conclusion qu'une étude longue et consciencieuse m'a imposée. J'appelle sur elle le jugement de ceux qui pensent, avec moi, que ce qui il y a de mieux et de plus pressant à faire pour notre société, après tant d'améliorations et de progrès matériels, c'est de travailler surtout au perfectionnement de l'homme moral.

DISCUSSION.

Miss Davenport Hill said:—The danger of relieving parents of their responsibility is that it creates the very evils we are attempting to remedy. Such amelioration is of slow growth. It is better effected by indirect means, such as compelling the attendance at school of children of careless and neglectful parents.

Some provisions in the Industrial Schools Bill of last year would be of great advantage. Many children sent to an industrial school need only healthy family life to turn them into well-behaved boys and girls. The rule which prevents managers of industrial schools from receiving weakly or deformed children who are supposed to be unfit for industrial training is objectionable. Many among them become healthy during their sojourn in the school, and nearly all can be taught some means of obtaining their own living. The provisions in the Act of this session enabling managers to emigrate or apprentice their pupils will do much to prevent the injury which vicious parents can inflict on young people who, having attained the age of 16, quit industrial schools, from the want of any legal provision which would enable managers to protect their former pupils.

Mr. George Margerison, referring to Mr. Mitchell's paper on "Neglected Children," pointed out that the law which Mr. Mitchell suggested should be passed to prevent boys and girls above 12 sleeping in same room as their parents, was already in operation in London, at least. Every sanitary authority was empowered by the Public Health Act to make byelaws for separation of sexes in all houses occupied by more than one family. He thought that Mr. Mitchell's suggestion that authorities might, where such law was put in force, pay the additional sum required when satisfied of the inability of the parents to do so, was a good one. He begged therefore to propose: That in any case where the sanitary authority puts the provisions of the Public Health Act into operation, the parent or guardian may, if unable from poverty to provide sufficient

lodging, apply to some properly constituted authority, and it shall be the duty of the said authority to pay the additional sum required when satisfied of the inability of the parent. This was not seconded.

Dr. T. W. Grimshaw (Registrar-General for Ireland) stated that the last speaker (Mr. G. Margerison) had dealt with the principal point to which he, Dr. Grimshaw, wished to refer, namely, that the existing statutes by which urban sanitary authorities had power to make byelaws for the separation of the sexes in tenement houses contained the provisions which Mr. Mitchell recommended as requiring new legislation. Dr. Grimshaw supported Miss Davenport Hill's strong protest against removing parental responsibility, though he would show no mercy to negligent or cruel parents, as was pretty well shown by the fact that he was Chairman of the Dublin Branch of the National Society for the Prevention of Cruelty to Children. He regretted that time did not permit of his referring to the questions connected with reformatory and industrial schools, the statistics of which he had to report upon annually.

Mr. Lloyd Baker said: As regards Mr. Mitchell's paper, I must state my belief that mechanical means have little to do with morality. The Northumberland labourers live in one room; and if they possess a second, keep it as a show or spare room. Yet immorality is very rare. No doubt they use ordinary precautions against indecency. I wish to call attention to the pamphlet addressed to mothers by Miss Ellice Hopkins, who states that a family may be brought up in one room with perfect decency by the careful use of a screen. Colonel Prendergast has spoken of the establishment of reformatories. I must do honour to the name of Captain Brenton, who originated the system. His school was attacked by groundless reports, and had to be closed. Some years after, when my father and others established the present reformatory system, it was on the lines laid down by Captain Brenton.

Colonel Prendergast has spoken of the industrial schools as a development of the reformatories; and of the further development of truant schools. I will add that we require a further development still, by the establishment of classified reformatories for older and younger boys, for weakly or very vicious boys.

Disposal is difficult; but we have always got places for our boys, and have found that over 90 per cent. go on well. What is called the "prison brand" has never caused the slightest difficulty. A shipowner has even returned to visit the school and talk of the benefits he received there, although his being there was a proof that he must have been in prison.

Assistance des Orphelins considérée au point de vue de leur Hygiène Physique et Morale.

PAR

le Docteur Victor Desguin, de l'Académie Royale de Médecine de Belgique, Conseiller communal de la Ville d'Anvers.

Depuis les temps les plus reculés, on s'est préoccupé du sort des enfants indigents que la mort de leurs parents ou leur abandon privait de leurs soutiens naturels. Ils étaient l'objet de la commisération

publique et l'on trouve, dans la plupart des législations anciennes, des marques non équivoques de la sympathie qu'ils inspiraient. Presque tous les peuples, en effet, ont édicté des lois mettant les orphelins à la charge de l'État, ou obligeant les particuliers à pourvoir à leurs besoins matériels.

Ce n'est pas ici le lieu de faire l'historique de ces diverses prescriptions légales. Peu à peu, la bienfaisance publique et officielle, s'organisant dans les pays civilisés, eut dans ses attributions le soin des orphelins, des enfants trouvés et abandonnés ; tandis que la charité privée, réunissant ses efforts épars et se constituant en associations, créait des refuges pour les recevoir et remplacer pour eux la famille absente.

La mort ou l'abandon des parents constitue donc aujourd'hui un véritable droit à l'assistance, et les orphelins sont considérés comme étant les pupilles naturels des administrations charitables et des particuliers bienfaisants, qui, malgré l'égoïsme dont on se plaît à accuser notre siècle et notre société, ouvrent largement leur bourse pour soutenir les déshérités de la fortune.

Presque partout on a trouvé que le meilleur moyen de sauver les orphelins de la misère, de leur donner l'instruction et l'éducation, de leur faire apprendre des métiers qui pussent les rendre plus tard indépendants, était de créer des maisons de refuge, sous le nom d'orphelinats.

Les premiers orphelinats qui furent établis, et dont nous avons encore vu des spécimens il n'y a pas bien longtemps, laissèrent beaucoup à désirer sous le point de vue de l'hygiène et même sous le point de vue de l'éducation. Il faut avoir visité les véritables cabanons dans lesquels ces petits malheureux étaient enfermés, pour se convaincre que le but qu'on devait poursuivre était loin d'être atteint.

Ce but, quel est-il ?

Il ne s'agit ici que d'enfants appartenant à la classe indigente. Les uns ont perdu leurs parents, par suite de maladies ou d'accidents, les autres ont été abandonnés par eux, d'autres ont été trouvés sur la voie publique, d'autres enfin ont été moralement abandonnés, c'est-à-dire, appartiennent à des parents condamnés à la prison, ou indignes, ou incapables de leur donner les soins nécessaires. Tous se trouvent actuellement sans moyens de subsistance, sans soutien, et ne peuvent rien espérer dans l'avenir. L'assistance publique a pour devoir de mettre ces enfants à l'abri du besoin, de les loger, nourrir et vêtir, de les préserver de la contagion du vice, et puis d'en faire des personnes à la fois saines et morales, capables de gagner plus tard honorablement leur vie et d'occuper dans la société une place convenable.

La plus grande partie de ces enfants sont porteurs d'une tare originelle et, s'ils ne sont pas malades dès leur naissance, on peut dire qu'ils sont prédisposés à certaines maladies, qu'ils les ont, en quelque sorte, en puissance. En effet, la plupart des personnes qui succombent à la fleur de l'âge sont emportées par des maladies héréditaires. Nous savons que la tuberculose, dans presque tous les pays, enlève environ la cinquième partie de la population ; nous connaissons les ravages

effrayants causés par l'alcoolisme, qui ne se borne pas à tuer ceux qui en sont atteints, mais frappe également leurs descendants et en fait, pour l'avenir, des ivrognes et des dipsomanes ; puis viennent la syphilis, la scrofulose, les maladies mentales, etc. Toutes ces maladies héréditaires ont imprimé leur cachet sur les petits malheureux qu'elles ont privés de leurs parents. Il n'y a aucune exagération à dire que la plupart des orphelins et des enfants abandonnés sont issus de parents atteints de maladies héréditaires. Et, dans le cercle de ces maladies héréditaires, il faut comprendre les maladies morales, c'est-à-dire, le vice ; les enfants de parents assassins, voleurs, faussaires, etc., n'ont pas seulement hérité des dispositions physiques de leurs auteurs, mais ils ont la plus forte propension à se livrer aux mêmes vices qu'eux, à commettre les mêmes délits. Dans le dénombrement des prostituées, on a observé que les filles illégitimes en fournissent une proportion beaucoup plus forte que les filles légitimes : la débauche elle-même est héréditaire.

Il ressort de là que la première préoccupation de l'assistance des orphelins doit être de leur donner la santé physique et morale. Ces enfants, qui sont, souvent, d'une constitution débile, détériorée, doivent être régénérés, et il faut que l'œuvre de la bienfaisance, soit officielle, soit privée, consiste à les mettre dans les meilleures conditions pour affronter les luttes de la vie et faire souche, plus tard, d'enfants bien portants. Combien ne voit-on pas d'ouvriers mourant dans la force de l'âge et laissant des familles dans la misère parce que, nés eux-mêmes de parents malades, ils n'ont pas été soumis dans leur enfance à des soins qui aient reconstitué leur organisme ! Fortifier la santé des orphelins, c'est donc travailler à l'amélioration de la classe ouvrière, diminuer pour l'avenir les charges de la bienfaisance et leur préparer à eux-mêmes une vie active et heureuse, au lieu des déboires et des malheurs que la maladie entraine toujours à sa suite. Un état bien constitué, qui, faisant même abstraction de toutes questions de sentiment, n'envisagerait que son intérêt matériel, mettrait sur la même ligne que les orphelins les enfants nés de parents atteints de maladies héréditaires ; il créerait pour eux des colonies agricoles ou maritimes, ou telles œuvres ayant le même but. Quelque dépense qu'il dût en résulter, il se trouverait après peu de temps avoir réalisé des bénéfices considérables : il aurait épargné de nombreuses vies humaines, dont chacune a sa valeur, car chaque individu valide coopère à la prospérité générale ; il aurait diminué de beaucoup le nombre des malades et de la sorte dégrevé le budget, partout si chargé, des hôpitaux et des hospices. En somme il aurait fait une bonne affaire financière, tout en accomplissant une œuvre d'intelligente philanthropie.

Nous sommes sans doute bien loin de la réalisation de pareilles idées ; ce n'est pas, quand tous les gouvernements se ruinent par leurs formidables armements, quand tous les budgets sont en déficit, qu'on peut songer à créer des institutions qui, au début, coûteraient des sommes considérables. Espérons qu'un jour viendra où les nations, plus sages, consacreront aux œuvres pacifiques et humanitaires toute l'activité qu'elles déploient actuellement dans le perfectionnement de leurs moyens de destruction ou de défense et que, dans une noble et féconde émulation,

elles s'efforceront d'avoir les citoyens les plus sains, les plus valides, les plus moraux.

En attendant revenons à nos orphelins.

Si la santé est la condition indispensable de tout travail fructueux, elle est également, jusqu'à un certain point, et surtout dans la classe ouvrière, une garantie de moralité. Que la débauche engendre la maladie, c'est incontestable. Mais l'état maladif est souvent lui-même la cause de l'immoralité, d'abord parce qu'il peut être le résultat des vices des ascendants, qui sont héréditaires, ensuite parce qu'un organisme affaibli résiste mal aux tentations du vice et aux sollicitations de la misère. Ou voit donc que la question sanitaire est absolument dominante dans l'assistance à donner aux orphelins ; il importe assez peu qu'ils aient bon gîte, bonne nourriture, bonne instruction, s'ils ne sont pas en même temps vigoureux et résistants. Il ne faut pas oublier qu'ils doivent plus tard se subvenir à eux-mêmes, non seulement par les connaissances qu'on leur aura données, mais aussi par les qualités physiques et morales qu'ils auront acquises.

Étant donné que ces enfants ne sont pas malades, mais seulement prédisposés à le devenir, puisque beaucoup d'entre eux sont issus de parents qui ont été emportés par la tuberculose, par les lésions consécutives à l'alcoolisme, par la syphilis, etc., que d'autres ont été engendrés dans le vice et la débauche, on combattra ces prédispositions par le moyen des puissants modificateurs hygiéniques que la science possède, et qui sont principalement : le grand air, le travail musculaire et le régime alimentaire. Il est à peine nécessaire d'insister sur l'importance de ces modificateurs. La vie en plein air, dans une région sèche et salubre, ou au bord de la mer, est certainement le moyen le plus efficace d'exciter tous les actes organiques, d'activer l'appétit, de favoriser les digestions, d'accélérer la circulation et de purifier le sang. Le travail corporel, les mouvements divers dans un air vivifiant régularisent les échanges nutritifs, augmentent la force musculaire et la résistance aux intempéries. Il va de soi que le régime alimentaire sera suffisamment abondant, suffisamment réconfortant pour permettre à l'organisme de réparer les pertes que le travail au grand air lui aura fait subir et le mettre en état de faire face à l'exercice musculaire qu'on réclame de lui.

Tels sont, en partant de nos prémisses, les principes qui doivent être appliquées dans l'assistance aux orphelins. Ces principes peuvent-ils toujours être mis en pratique ? En d'autres termes : Quel est le système qui doit prévaloir dans l'assistance aux orphelins ?

En étudiant les pratiques en rigueur chez les différentes nations, on constate que ces systèmes peuvent se réduire à trois : l'orphelinat —le patronat—le système mixte. Examinons rapidement chacun d'eux.

L'orphelinat fermé est le mode d'assistance le plus ancien, probablement le plus appliqué de nos jours et celui auquel semblent revenir certaines administrations publiques qui l'avaient abandonné. Il consiste dans l'internement des orphelins des deux sexes dans des établissements généralement spacieux, bien construits en point de vue de l'hygiène, souvent même trops luxueux et présentant trop de comfort. Les enfants y reçoivent une bonne instruction et y apprennent des métiers en rapport

avec leurs forces et leurs aptitudes. Ce système présente tous les avantages et les inconvénients des internats. Comme avantages : une surveillance de tous les instants, l'ordre, la propreté, la discipline ; comme inconvénients : l'absence de la vie de famille, le manque de spontanéité, de liberté, le défaut d'exercice suffisant, le danger des maladies, la trop grande facilité de vivre, qui fait envisager l'existence sous un faux jour, qui ne permet pas d'en voir les côtés pratiques ; parfois aussi la compression des caractères, la délation, la dissimulation. Les inconvénients de ce mode d'assistence sont-ils compensés par les avantages très réels qu'on y trouve ? Tous les hygiénistes sont d'accord en principe pour condamner l'internement des enfants. A la rigueur ils accepteraient les pensionnats placés à la campagne, ceux où les enfants jouissent de la plus grande somme de liberté possible et peuvent le mieux se livrer aux jeux, aux exercices nécessaires à leur âge, où ils respirent un air pur et constamment renouvelé, où leur mode de vivre ressemble le plus à celui de la famille. Les pensionnats urbains, qui ne réunissent pas ces conditions d'hygiène, sont absolument condamnés. Or, les raisons qui font rejeter les internats pour les enfants de la classe aisée doivent, à plus forte raison, les faire rejeter pour les indigents, parmi lesquels les orphelins, dont nous nous occupons, dont il faut souvent réformer les constitutions par l'exercice musculaire et par un air vivifiant et qui, sous peine de fortes déceptions, ne doivent pas être habitués à la vie facile, sans souci, sans caractère pratique, que l'on mène dans les pensionnats.

Les inconvénients signalés plus haut disparaissent dans le système du patronat. Ici, les orphelins, confiés à des patrons, soit à la ville, soit à la campagne, selon leur état de santé et le métier auquel on les destine, vivent absolument de la vie de famille, sont élevés avec les autres enfants, fréquentent les écoles de la localité, connaissent les difficultés qu'on éprouve à gagner sa vie, s'initient aux détails du ménage, apprennent de bonne heure la pratique de la vie. Souvent ils restent dans les ménages où ils ont été élevés et dont ils deviennent les enfants adoptifs, ils s'associent à leur patron dans l'exercice de son métier, ils contractent des alliances dans la localité. S'ils quittent leur patron pour s'établir, la transition n'est pas brusque, comme lorsqu'ils quittent l'orphelinat : ils ne s'étonnent plus des difficultés de l'existence, ils savent que rien ne vient sans peine ; dans l'atmosphère de liberté relative où ils ont vécu, ils ont acquis de la spontanéité ; en un mot, ils sont préparés aux luttes de la vie.

Les tout jeunes orphelins, ceux pour lesquels il ne peut encore être question d'apprentissage, peuvent de même être placés dans des familles, à la campagne, quitte à être repris plus tard, pour être confiés à des patrons exerçant un métier.

Pour que le système du patronat produise ses fruits, plusieurs conditions doivent être réalisées ; la première est le choix judicieux du patron ou du nourricier, qui doit être sain, sobre et honnête, autant que possible père de famille, pour que son nouveau pupille puisse être élevé avec les autres enfants, jouissant d'une aisance suffisante pour qu'on soit sûr que l'orphelin obtiendra la nourriture qui lui convient.

Une seconde condition indispensable est l'organisation d'un bon service d'inspection qui, fréquemment et à des époques indéterminées, exerce une active surveillance sur l'orphelin, s'assure de la manière dont on le traite et dont on l'instruit, s'enquière de son caractère, de ses défauts, de ses aptitudes, de son état de santé. Il faut, de plus, que les enfants malades reçoivent les soins nécessaires et, s'ils ne peuvent les avoir chez leurs patrons, qu'ils rentrent à leur lieu d'origine et soient placés dans les instituts destinés à leur traitement.

Enfin il est un troisième système, mixte, qui participe des deux précédents. Les enfants sont placés chez des nourriciers ou des patrons pendant quelques années, puis rentrent à l'orphelinat afin de se perfectionner dans leurs métiers. Ce système offre certainement de grands avantages sur celui de l'internement continu. La santé de l'orphelin a pu s'affermir pendant le séjour chez le nourricier ou le patron ; il a vécu quelque temps de la vie de famille et n'est plus absolument ignorant des nécessités de l'existence et de ses difficultés. Rentré à l'orphelinat, l'enfant pourra devenir un ouvrier habile, qu'il n'aurait peut-être jamais été chez son premier patron. Ce mode d'assistance, toutefois, ne parait être applicable que dans un nombre très restreint de cas, lorsque les enfants ont une intelligence au dessus de la moyenne et présentent des aptitudes bien marquées pour un genre spécial de travail ou des dispositions sérieuses à des études plus élevées. Il offre l'inconvénient, pour les administrations et pour les associations charitables, de devoir maintenir des orphelinats en permanence, avec leur personnel, leurs frais d'entretien, etc. Encore y aurait-il moyen d'arriver au même but sans s'imposer ces dépenses : on pourrait placer ces jeunes gens, exceptionnellement doués, en pension dans des familles connues et ils iraient fréquenter les écoles ou les ateliers qu'on leur aurait assignés. C'est du reste la pratique usitée dans certains établissements fermés où les orphelins, pour compléter leur apprentisssage ou parfaire leur instruction, sont envoyés chez des patrons habiles et bien outillés, ou dans des écoles supérieures.

Le côté financier de la question qui nous occupe ne doit pas être perdu de vue ; son examen nous fournira un élément de plus pour la résoudre. Les ressources de la charité officielle et privée sont nécessairement limitées et tous ceux qui ont droit à l'assistance ne peuvent en jouir. Il résulte de là qu'il faut adopter le système le moins coûteux, dès le moment qu'il offre toutes les garanties au point de vue du but à atteindre, de l'avenir des orphelins. Or, nous trouvons qu'en Belgique, et il y a lieu de croire que les pays étrangers n'offrent guère, sous ce rapport, de différences avec le nôtre, l'entretien d'un orphelin ou d'une orpheline dans les établissements fermés coûte en moyenne 400 francs par an, sans compter l'entretien du bâtiment et le capital immobilisé par sa construction, tandis que le placement chez des nourriciers ou des patrons ne coûte qu'en moyenne 110 francs, qui finissent même par ne plus devoir être payés, quand l'orphelin rend à sa nouvelle famille assez de services. La différence est considérable, et nous avons vu que ce système, le moins coûteux, est aussi celui qui répond le mieux au voeu de l'hygiène et qui assure le mieux l'avenir de l'orphelin.

La réponse à la question posée ne saurait donc être douteuse : il faut supprimer les orphelinats fermés et les remplacer par le système du patronat ou système familial.

Toutefois il faut reconnaître que certaines objections peuvent être opposées au système du patronat. Les enfants naturellement vicieux, ceux chez lequels on a découvert des défauts graves ou de mauvaises tendances ne peuvent pas profiter du séjour chez un patron ou même chez un nourricier. Pour eux, la liberté dout on y jouit serait préjudiciable. Ils doivent être l'objet d'une surveillance incessante, être soumis à une discipline éclairée et sévère. Le meilleur système à leur appliquer est celui de la colonie agricole, qui présenterait toutes les garanties au point de vue de la santé. Son établissement ne serait pas onéreux : il suffirait d'une ferme avec un terrain à cultiver. Sous une direction intelligente, les mauvaises dispositions des élèves se rectifieraient et l'on pourrait espérer que leur nature déviée se transformerait.

Une autre catégorie d'enfants ne sont guère destinés à profiter du placement chez des patrons : ce sont les scrofuleux, les rachitiques. Pour eux, la colonie agricole ne conviendrait pas absolument ; il vaudrait mieux la remplacer par la colonie maritime. Des établissements de cette sorte ont déjà produit des résultats très encourageants. L'air vivifiant de la mer, avec ses propriétés particulières, constitue le modificateur le plus puissant à mettre en œuvre dans ces états maladifs. L'installation de ces colonies ne serait d'ailleurs pas beaucoup plus coûteuse que celle des colonies agricoles ; rien ne s'opposerait d'ailleurs à ce qu'on y adjoignît une exploitation agricole.

Si les idées que je viens d'exposer étaient généralement admises, les associations charitables et les institutions de bienfaisance officielle réaliseraient, comme je l'ai montré, de sérieuses économies qui pourraient être utilement employées à secourir un plus grand nombre d'orphelins et d'enfants abandonnés, ou à créer d'autres œuvres également nécessaires.

Ce travail pourrait s'arrêter ici. Mais certaines administrations de grandes villes, qui ont essayé le système du patronat, probablement dans de mauvaises conditions, paraissent vouloir en revenir à l'orphelinat fermé ou au système mixte esquissé plus haut. D'autres, qui ont fait construire à grands frais des établissements magnifiques, se décideraient peut-être bien difficilement à les abandonner et à recourir à un autre mode d'assistance. Dans ces conditions, il est nécessaire d'examiner de quelle manière il serait possible de supprimer les inconvénients que nous avons reconnus aux orphelinats et d'autres encore dont je n'ai pas parlé.

Il est incontestable que, dans les orphelinats, la vie de famille n'existe pas. Les enfants sont donc privés de la meilleure école pratique qu'il y ait, de celle qui leur apprend au prix de quelles difficultés on se procure le logement, le vêtement, la nourriture et même le travail. Aussi, quand ils sortent de l'établissement à l'âge de 18 ou 19 ans, sont-ils parfaitement ignorants d'une foule de choses qui sont pour eux de la plus grande nécessité. Logés dans des locaux spacieux, bien aérés, bien chauffés, parfaitement aménagés, pourvus de toutes les commodités, avec éclairage au gaz et distribution d'eau, trouvant à heure fixe leur

couvert mis et leur nourriture préparée, ils se figurent aisément que, n'ayant dû se donner aucune peine pour acquérir ces biens, il n'en saurait être autrement plus tard. A leur sortie les attendent les déceptions; combien ne voit-on pas d'orphelins qui, entrés en service, sont tout étonnés de voir que, dans bien des maisons bourgeoises, il y a infinement moins de comfort que dans l'établissement qu'ils ont quitté! C'est surtout aux filles que s'applique cette observation. Les idées de grandeur et de bien-être que, malgré tout le tact de leurs maîtresses, elles ont emportées de l'orphelinat, faussent leur jugement; elles sont malheureuses dans les services où elles sont entrées, et changent bientôt pour entrer ailleurs et finissent parfois dans le dévergondage.

Notons que dans les orphelinats, il existe entre les enfants vicieux et ceux qui ne le sont pas, une promiscuité qui est toute au détriment de ces derniers. On sait que, dans l'enfance, l'exemple est contagieux, mais que le mauvais exemple est plus souvent suivi que le bon; ce sont donc les vicieux qui gâtent les autres, au lieu d'être amendés par eux. Dans le système du patronat pour les orphelins normaux et de la colonie agricole pour les vicieux, ce contact n'est pas à craindre. Dans les orphelinats, il ne saurait être complétement évité. Grâce à la discipline qui règne dans l'établissement, les défauts se cachent, mais ne disparaissent pas; ils ne sont pas corrigés. Et, comme il arrive des moments où la surveillance s'endort, où les enfants jouissent en commun d'une liberté relative, les mauvais corrompent les autres. Quand on visite un orphelinat bien tenu, on serait loin de se douter de cet état de choses: grâce à la politesse et aux bonnes manières inculquées aux enfants, on est tenté de croire que le moral répond toujours à ces excellentes apparences. Des faits graves sont venus parfois nous montrer que ce vernis d'éducation n'est qu'un trompe l'œil. Mais c'est surtout après la sortie des enfants, quand ils ont recouvré toute leur liberté, qu'on s'aperçoit des défauts qu'ils ont conservés, tout en les masquant sous la dissimulation que leur internement et la discipline à laquelle ils ont été soumis leur ont fait prendre.

Cette considération est certainement un des arguments les plus puissants en faveur de la suppression des orphelinats fermés.

Il faut, de la part de la direction, non seulement beaucoup d'énergie, mais beaucoup de talent et de tact pour arriver à amender les enfants vicieux et pour les empêcher de contaminer ceux qui sont normaux.

Nous avons vu quelles conditions générales doit remplir l'assistance des orphelins au point de vue de l'hygiène et de la santé. Il est bien difficile que les orphelinats placés au sein des villes ou des grandes agglomérations répondent à ces exigences. En n'envisageant que le côté sanitaire de la question, on admettra que les orphelinats devraient toujours être établis à la campagne. L'espace, en ville, est généralement trop restreint pour que les enfants jouissent des avantages de l'air libre; d'un autre côté, l'air des villes est, comme qualité, notablement inférieur à celui de la campagne.

Une objection que l'on peut faire au placement de ces établissements en dehors des agglomérations est la difficulté, surtout pour les garçons, de l'apprentissage des divers métiers. Mais cette objection,

très-fondée, tombe devant cette considération, que rien n'empêcherait d'enseigner la plupart des métiers à l'orphelinat même, jusqu'à ce que les jeunes gens fussent suffisamment avancés pour pouvoir être mis en pension et en apprentissage chez des maîtres, mieux outillés que l'établissement ; en appliquant par conséquent un système mixte, dont ne profiteraient que les jeunes gens ayant montré d'heureuses dispositions, permettant d'espérer qu'ils se perfectionneront dans l'exercice de leur métier ; de même ceux qui montrent des aptitudes spéciales à l'étude seraient envoyés dans des écoles supérieures ; mais les uns et les autres formeraient l'exception, et l'orphelinat serait apte à donner à la généralité l'instruction primaire et une connaissance suffisante des métiers pour pouvoir devenir de bons ouvriers.

Pour les filles, le placement à la campagne n'offre aucun inconvénient, les métiers qu'elles sont appelées à exercer pouvant toujours s'enseigner à l'intérieur de l'établissement et ne nécessitant jamais de déplacements.

Que l'orphelinat soit construit à la ville ou à la campagne, il doit en tous cas être pourvu des installations nécessaires pour développer le corps, augmenter la résistance vitale, empêcher l'éclosion des maladies héréditaires, combattre le développement et la propagation de la tuberculose, des maladies zymotiques, de l'ophtalmie granuleuse. La gymnastique et la natation sont indispensables aux deux sexes, pour augmenter les forces, développer harmoniquement le corps, lui donner de la souplesse et de l'agilité, lui communiquer de la résistance. Au point de vue de la tuberculose, tout individu qui tousse doit être tenu pour suspect, surtout quand il est issu de parents morts jeunes et qu'il est lui-même de faible constitution. Connaissant la contagiosité de la tuberculose par les poussières de crachats desséchés, on évitera que les tousseurs ne crachent sur les planchers ou dans leurs mouchoirs.

Les enfants prédisposés aux maladies héréditaires et, en général, tous les enfants qui, sans être malades, sont malingres, chétifs, porteurs d'engorgements ganglionnaires, etc., doivent être soumis outre les exercices corporels, à une médication préventive destinée à fortifier leur constitution et consistant dans l'administration de moyens réconfortants et résolutifs, parmi lesquelles l'huile de foie de morue, les ferrugineux et les iodés tiennent le premier rang.

Pour éviter la propagation de l'ophtalmie granuleuse, qui, dans les internats, fait de nombreuses victimes et est éminemment contagieuse, on veillera à ce que chaque enfant ait son essuie-mains spécial et ne puisse se servir de celui des autres.

La teigne faveuse et, en général, les maladies contagieuses du cuir chevelu se propagent également avec grande rapidité. La meilleure mesure à prendre contre elles est de tenir les cheveux courts, d'interdire aux enfants de se servir du couvre-chef l'un de l'autre et d'isoler soigneusement ceux qui en sont atteints.

On connaît bien aujourd'hui le mode de propagation des maladies zymotiques ; il est inutile de les passer en revue. Qu'il nous suffise de faire à leur propos une recommandation. Les enfants qui en présentent les prodrômes doivent, autant que possible, être immédiate-

ment transférés dans les hôpitaux. Mais, comme l'hôpital peut-être assez éloigné et que la nature de la maladie n'est pas toujours reconnue dès l'abord, chaque orphelinat doit, outre l'infirmerie, qui est destinée aux blessures et aux simples indispositions, contenir une ou deux chambres d'isolement, afin de pouvoir y mettre les cas de maladies contagieuses qu'on ne pourrait envoyer à l'hôpital, ainsi que les cas douteux. Ces chambres d'isolement doivent être soigneusement désinfectées, chaque fois qu'elles ont été employées.

Naturellement, pour que toutes ces prescriptions, dont aucune n'est superflue, puissent être exécutées, l'orphelinat sera placé sous la surveillance incessante d'un médecin et, de plus, la direction devra posséder des notions d'hygiène assez étendues.

Un orphelinat, d'ailleurs, ne peut produire de bons résultats que si le personnel chargé de la direction, de la surveillance, de l'enseignement, est judicieusement choisi : les nombreuses qualités qu'on doit exiger de ce personnel rendent ce choix difficile. Les personnes qui le composent doivent être saines, vigoureuses et morales. Il faut qu'elles possèdent une autorité suffisante pour exercer sur les enfants une influence psychique prépondérante ; de plus leur perspicacité, leur talent d'observation doivent être assez grands pour qu'elles soient capables d'étudier le caractère et les dispositions des enfants qui leur sont confiés, de manière à combattre les tendances héréditaires au vice et à reconnaître les aptitudes de chacun.

Le personnel doit toujours être pénétré de cette idée, qu'il n'a pas affaire à un internat ordinaire, dont les élèves, après leurs études finies, rentreront dans leurs familles, où ils trouveront les conseils et l'assistance nécessaires pour se faire une position ; mais que, dès leur sortie de l'établissement, ils seront réduits à leurs propres forces et ne pourront compter sur aucune aide pour faire leur chemin dans le monde. De là l'obligation de rester toujours, avec eux, sur le terrain pratique, afin de leur éviter, dans l'avenir, des désillusions. L'administration, de son côté, ne perdra jamais ce but de vue. Aussi le régime alimentaire, l'habitation, le vêtement, tout en répondant parfaitement aux prescriptions de l'hygiène, seront-ils simples et excluront-ils tout luxe, tout raffinement. Les orphelinats anciens étaient fort défectueux au point de vue hygiénique ; bien des orphelinats modernes, que nous connaissons, pêchent par un excès contraire : ce sont de véritables palais où se rencontrent toutes les commodités de la vie. Aussi, quand des jeunes filles, élevées dans ces somptueux établissements, où elles trouvent de l'eau et des déversoirs à tous les étages, des machines à laver, etc., deviennent servantes dans des maisons de petits bourgeois, sont-elles dépaysées ; elles ne comprennent pas qu'il faille aller pomper l'eau, porter des seaux, faire la lessive à la main et bien d'autres travaux auxquels on ne les a pas habituées. Il serait très utile de leur faire mener, le plus souvent possible, la vie de famille. On les enverrait de temps en temps, par groupes d'une demi-douzaine, sous la conduite d'une maîtresse, passer quelques semaines à la campagne, dans une petite maison, où elles feraient elles-mêmes tout l'ouvrage ; cette

éducation pratique servirait plus à leur hygiène morale que tous les discours et tous les conseils dépourvus de sanction.

Si de la vie matérielle nous passons à la vie intellectuelle, les mêmes écueils sont à éviter. Sans doute il faut donner l'instruction aux orphelins des deux sexes, et même une instruction solide, développant le jugement et donnant des idées justes. D'une manière générale, l'enseignement doit être professionnel. Aller plus loin, c'est risquer de donner à ces enfants déshérités des idées ambitieuses, qu'ils ne pourront réaliser plus tard : c'est en faire des déclassés, rougissant de leur position, ne sachant pas la remplir et incapables d'acquérir celle à laquelle ils aspirent. L'instruction toutefois, tout en étant pratique, ne sera pas trop aride. On enseignera le dessin, qui peut toujours être utile dans une foule de professions, et même indispensable ; on enseignera également la musique vocale, qui élève l'intelligence et procure une agréable distraction.

Exceptionnellement, les enfants jouissant d'une bonne santé et montrant des dispositions spéciales, pourront être préparés aux études supérieures.

Quant au choix des métiers, il dépendra nécessairement des aptitudes des enfants, des dispositions qu'on leur a reconnues, de leur adresse, etc. Mais, de plus, il faudra tenir grand compte de leur état physique. Ainsi, il serait illogique et dangereux de faire apprendre le métier de couturière ou de lingère à des jeunes filles faibles de constitution, anémiques, issues de parents tuberculeux, ou prédisposées à la mélancolie et dont l'un des ascendants aurait été atteint d'aliénation mentale. Pour les garçons, il serait tout aussi mauvais d'enseigner un métier à poussières irritantes, comme celui de tailleur de pierres ou de boulanger, à ceux qui sont prédisposés aux maladies des voies respiratoires. Les qualités physiques de l'enfant doivent donc, plus même que leurs aptitudes, déterminer le genre de profession auquel on les destine.

En thèse générale, il faut éviter les métiers qui chôment une partie de l'année. La continuité du travail est une règle de discipline et de moralité. Si des métiers à chômage peuvent être impunément exercés par les jeunes gens vivant dans leurs familles, il n'en est pas de même pour les orphelins, qui, dès leur sortie de l'établissement, doivent pouvoir immédiatement gagner leur vie.

La façon dont les métiers sont enseignés mérite également considération. S'il est utile d'initier les jeunes gens aux procédés les plus perfectionnés, à l'outillage le meilleur, il ne faut pas oublier que les ateliers dans lesquels ils entreront ne rempliront pas toujours ces conditions et, pour leur éviter des déceptions, pour empêcher même qu'ils ne soient considérés comme incapables, on fera bien, pendant leur apprentissage, de leur appendre à exercer leurs métiers, même dans des conditions défectueuses, comme ils les rencontreront peut-être plus tard dans la vie.

Dans bien des pays, on fait une distinction entre les soins à donner aux orphelins et ceux que réclament les enfants trouvés et abandonnés. C'est un tort, à mon avis. Les uns et les autres, non seulement ont droit

à la sollicitude, mais doivent être soumis au même traitement, puisque les uns et les autres se trouvent dans une position identique, vis-à-vis de la société. En parlant toujours des orphelins, il est bien entendu que j'applique les mêmes principes aux enfants trouvés et abandonnés.

Je n'ai pas voulu traiter ici toutes les questions qui se rattachent à l'éducation des orphelins; beaucoup d'entre elles sont d'ordre administratif. C'est le côté hygiénique seul du problème, qui m'a préoccupé.

Les observations qui précèdent peuvent se résumer ainsi: Vie de famille pour les orphelins normaux;—colonies agricoles pour ceux qui sont vicieux;—colonies maritimes pour ceux dont la constitution est délabrée; en conséquence: suppression des orphelinats;—et, quand les orphelinats sont maintenus, prescriptions spéciales pour la santé physique et l'hygiène morale des pupilles.

Ueber die Nothwendigkeit der Reconvalescentenhäuser für Kinder.

VON

MARIANNE NIGG,

Volksschullehrerin in Korneuburg nächst Wien in Nieder-Oesterreich.

Unser Jahrhundert ist so reich an Schöpfungen, welche die Verbesserung der sanitären Verhältnisse unseres Erdballes regeln sollen, dass es eigentlich das Jahrhundert der Hygiene genannt zu werden verdient. Auch bei uns in Oesterreich wetteifern Humanitätsanstalten der verschiedensten Art, den Jammer und das Elend der leidenden Erdenbürger weniger fühlbar zu machen, ja, völlig zu bannen. Die grossartigsten, gediegensten Krankenanstalten für Erwachsene und Kinder geben Zeugnis hievon.

Weit entfernt, auch nur im geringsten daran zu denken, mich mit den gelehrten Vorträgen der Congressmitglieder messen zu wollen, wählte ich mein Thema als Bildnerin der Jugend und bitte, es auch in diesem Sinne aufzunehmen.

Wie manches Kind wurde durch die aufopfernde Sorgfalt des Spitalarztes am Leben erhalten und kehrt, dem Todesengel wie durch ein Wunder entrissen, geheilt in seine Familie zurück.

Armes Kind! Jetzt erst bedürfte es einer verdoppelten Pflege; jedes Lüftchen sollte abgehalten werden, der noch geschwächte Magen sollte durch zweckentsprechende Nahrung gestärkt werden und sollte erst wieder lernen die heimische derbe Kost zu vertragen, die zärtlichste Sorgfalt sollte jeden Schritt überwachen und nicht das kaum genesene Kind in das tolle Getriebe einer von Gesundheit strotzenden Kinderschar mit einbezogen werden, welche an den noch geschwächten Körper oft Zumuthungen stellt, denen er noch nicht gewachsen ist. Mit einem Worte, was Gold für ein gesundes Kind ist, das ist oft Gift für ein eben

genesendes Kind, für ein Kind, dessen Organismus arg zerrüttet war, das sich erst kräftigen sollte.

Fragen wir die Herren Aerzte und sie werden hunderte von Fällen aufzählen können, in welchen sie erkrankte Kinder mit Anwendung ihrer ganzen Kunst gerettet haben, die aber in der Zeit ihrer Reconvalescenz, da es ihnen an richtiger Nahrung mangelte, da sie einer guten Luft entbehren müssten, dem Siechthume verfielen und so für die Menschheit, für den Staat verloren waren. Wurden sie nicht sofort eine Beute des Todes, so hatten sie oft noch ein ärgeres Los, sie wurden, wenn sie am Leben blieben, Krüppel, unbrauchbare Menschen, eine Last der Gemeinde, des Staates. Dem, geehrte Versammelte, wäre abzuhelfen: Man errichte eigene Reconvalescentenhäuser nicht nur für die aus den Spitälern entlassenen Kinder, sondern überhaupt für solche Kinder, deren Verhältnisse es nicht gestatten, dass ihnen die liebevolle Pflege und Aufmerksamkeit während der Zeit ihrer Reconvalescenz von der Familie zutheil wird, damit sie, erst erstarkt, dem Alltagsleben im Kreise der Armuth übergeben werden und so die Zumuthungen, welche diese an die Jugend stellt, leichter ertragen können.

An guten Rathschlägen von uns aus fehlt es nicht, doch der Armuth ist wohl schwer rathen und so verfällt das arme Kind oft nicht nur körperlich, sondern oft auch geistig, und ich könnte hunderte von Fällen bezeichnen, wo geistig geweckte Kinder nach Scharlach-, Masern-, Blatternepidemien und anderen verheerenden Krankheiten, nach ihrer Genesung zu schwach waren, die gebotene geistige Kost aus Mangel an gehöriger Kraft zu verdauen und so geistig mehr oder minder verkamen.

Können Sie mir es verargen, dass ich als Bildnerin der Jugend Ihnen ganz begeistert die Schilderung dieser Wohlthätigkeitsanstalt mache, welche die Hochherzigkeit des Ehepaares August und Amalie Herzmansky aus Wien zu Stande gebracht, um so recht würdig den 25jährigen Bestand ihres Geschäftes zu feiern, welches hier in England durch seinen Export eben so gut bekannt ist, als bei uns zu Lande. Es wurde hier eine bleibende Stätte für ewige Zeiten geschaffen, um den früher bezeichneten Uebeln und Gefahren einen mächtigen Damm zu setzen: es ist das I. Muster-Reconvalescentenhaus für die aus den Spitälern Wiens geheilt entlassenen Kinder in Weidlingau im Wurzbachthale in Nieder-Oesterreich. In Weidlingau, eine reizende Sommerfrische, wurde es auf einem der schönsten Punkte errichtet. Das Hauptgebäude, ein imposanter Bau im italienischen Stile, umflossen von Sonnenlicht und milder ozonreicher Luft, steht einladend auf einer Anhöhe und dient den armen aus den Spitälern Wiens geheilt entlassenen Kindern zum Aufenthalte von Mai bis October jeden Jahres. Durch vorsorgende, aufopfernde Betreuung wird die schwache Lebensflamme der armen Kinder neu angefacht und erhalten.

Wunderschöne Bäume und Pflanzengruppen, desgleichen auch ein Springbrunnen, erfreuen den Besucher und überall bemerkt man auf weissen Täfelchen die Namen der Bäume und Gesträucher angebracht. Eine zweiarmige Treppe führt uns auf eine im Parterre liegende

Veranda, die breit genug ist, um den Kindern an Tagen, wenn die Gartenwege feucht sind, Aufenthalt zu gewähren. Von hier kommen wir durch eine Flügelthüre in einen hohen, luftigen mit den Bildnissen der Stifter geschmückten Saal, der zu beiden Seiten Tische und Stühle hat. Grosse Wandschränke, viele interessante Anschauungsgegenstände enthaltend, befinden sich an den Wänden und selbst diese haben Stellagen mit interessanten Anschauungsgegenständen, meist aus fremden Ländern und Erdtheilen. Diese werden an Regentagen vorgezeigt, und so lernen die Kinder in bunter Reihenfolge tausenderlei interessante Objecte kennen, die nicht des Unterrichtes wegen vorgezeigt werden, sondern nur da sind, damit der Geist angenehm angeregt werde und nicht erschlaffe.

Auch die Freude, etwas zu schaffen, ist den Reconvalescenten gegönnt. Die für alles bedachte Gründerin sorgte für Regentage vor, indem sie aus Stoffabfällen und Mustern ihres Manufacturgeschäftes die reizendsten praktischen Gegenstände, als Täschchen, Untertassen, Rahmen, Röckchen u. a. Dinge anfertigen lässt, welche dann Eigenthum der Kinder werden. Aus diesem Saale kommt man in einen breiten, mit Teppichen belegten Corridor, und durch die gegenüberliegende Thür treten wir in einen luftigen Speisesaal. Zwei Reihen nach der Grösse der Kinder zu regulierende Tische und Bänke fallen uns hier ins Auge. Bemerkenswert sind die zum Hineinstellen der Teller gemachten Oeffnungen in den Tischen, damit genau die Distanz beim Sitzen eingehalten wird, und die Teller nicht hinabgeworfen werden können. Jedes Kind hat hier eine Lade, in welcher das Besteck, der Trinkbecher und der Teller nummeriert sind und genau mit seiner Aufnahmsnummer übereinstimmen.

Im Parterre befindet sich noch das Ordinationszimmer des Arztes, in dem auch die Aufnahme geschieht. In dem daselbst befindlichen Aufnahmsprotokoll werden alle Kinder und auch die Krankheit, von welcher sie genesen sind, verzeichnet.

Anatomische Gegenstände, Instrumente und Waschbecken befinden sich hier. Anstossend ist ein Sprechzimmer mit einer Bibliothek und einem Claviere; dies zur Zerstreuung der Kinder. Das Puppenzimmer ist im Bodenraume des Mittelbaues eingerichtet, der in einen Spielsaal umgewandelt ist; doch befinden sich die Kinder hier nur an Regentagen, da sie ja die ganze Zeit über im Freien gehalten werden.

Die 15 Meter langen Schlafsäle sind sehr gut ventiliert und haben so wie auch die übrigen Räume Heizvorrichtungen, welche oft im Frühjahre und Herbste schon sehr nothwendig waren.

In weitem Abstande stehen hier in jedem der Schlafsäle Bettchen aus massivem Eisen, welche durch eine telegraphische Leitung mit den Zimmern der Wärterinnen in Verbindung stehen, so dass das Kind nur an einem am Kopfende des Bettchens befindlichen Taster drücken darf, um dieselben herbeizurufen, ohne die übrigen Kinder im Schlafe zu stören. Am Kopfende des Bettchens ist noch eine sinnreiche Vorrichtung angebracht, es befindet sich daselbst eine Nische zum Aufnehmen eines Glases Wassers oder der verordneten Arzenei. Ueber die Nische ist ein Vorhang mit einem Sprüchlein gezogen.

Jedes Bettchen besteht aus einer Drahtmatratze, und darüber eine Matratze aus Rosshaar mit darüber geknöpfeltem Leintuch, dass sie im Bedarfsfalle schnell umgewendet werden kann.

Damit die Kinder sich während des Schlafes nicht abdecken können, ist die überzogene Steppdecke mit Elastik befestigt. Ausserdem hat jedes Kind noch eine gehäkelte Decke.

An die Ankleidezimmer schliesst sich das Badezimmer. Dort befinden sich Waschtische mit den nöthigen Utensilien und in der Mitte ein Vollbad aus Zink mit warmer und kalter Leitung, welches 10 Kinder fassen kann. Ausserdem befinden sich hier noch Wannen zu Einzelnbädern mit mineralischen Zusätzen. Die einzelnen Stockwerke haben noch geräumige hübsch ausgestattete Zimmer für die Pflegerinnen, ein Isolierzimmer, wenn ein Kind plötzlich erkrankt, und die Wäscheverwahrung. Grosse hohe Kästen bergen reichliche Vorräthe von Bettwäsche, Leibwäsche und Hauswäsche, welche in grösster Ordnung hier aufgestapelt liegen.

Der luftige Garten wird häufig zu Rundgängen benützt und führt aufwärts zu einem herrlich angelegten Spielplatze. Rachitische Kinder, und solche, denen es frommt, haben hier einen grossen Sandhaufen, auf welchem sie, wenn er von der Sonne durchwärmt ist, verschiedene anregende Spiele spielen.

Um 7 Uhr morgens stehen die Kinder auf, um $^1/_2$8 Uhr abends gehen sie zu Bette und der grösste Theil des Tages ausser den Essstunden wird im Freien zugebracht. So wie die innere Einrichtung, wurde auch die ganze Verpflegung von der Gründerin in Erwägung gezogen.

Eine einfache, naturgemässe, schmackhafte, sättigende Kost, welche animalische und vegetabilische Nährstoffe in ausreichender Menge enthält, wird den Kindern geboten. Es wird darauf Rücksicht genommen, dass den Kindern die Nährstoffe in den richtigen Mengenverhältnissen durch die Speisen zugeführt werden, die Speisen Abwechslung bieten und schmackhaft und gar zubereitet sind und dem Sättigungsbedürfnis der Kinder völlig entsprechen. Auch ist Regel, dass denselben alle 2 Stunden Nahrung und Trunk gereicht wird.

Zum Frühstücke erhalten die Reconvalescenten Milch oder Eichelkaffee, zum Gabelfrühstücke mit Schinken oder Braten belegtes Brod, zum Mittagsessen Rindsuppe, Fleisch und Gemüse, zur Jause Butterbrod mit Rettig, oder Obst, zum Nachtmal Milchspeise oder Gemüse mit Beilage von Fleisch. An Sonn- und Feiertagen bekommen sie mittags Suppe, Braten mit Salat oder Compott und Mehlspeise. Ausserdem erhalten jene Kinder, denen der Arzt es verordnet, Rothwein zum Getränke.

Gepflegt werden die Kinder von 4 barmherzigen Schwestern, zu deren Beihilfe noch mehrere weltliche Personen bestimmt sind. Ausserdem wird das Befinden der Kinder vom Anstaltsarzte und vom Ortsarzte überwacht.

Die im Reconvalescentenhause aufgenommenen Kinder litten an allgemeinen Ernährungsstörungen; als: Blutarmut, Bleichsucht, Rhachitis, Scrophulose u. a. m. Ferner an Erkrankungen des Nerven-

systemes, als: Epilepsie, Veitstanz, Hysterie, Lähmung nach Diphteritis, Starrkrampf u. a. m.; an Erkrankungen der Respirationsorgane, als: Bronchialkatarrh, Lungen- und Rippenfellentzündung, Lungentuberculose u. a. m.; Erkrankungen der Verdauungsorgane, als: Magen-, Dünn- und Dickdarmkatarrh, Blinddarm- und Bauchfellentzündung, Magenblutung u. a. m.; an Krankheiten der Haut, an Erkrankungen der Gelenke, der Knochen, der Augen, an Verletzungen, Neubildungen und Infectionskrankheiten, doch werden mit letzteren Krankheiten Behaftete erst dann aufgenommen, wenn dieselben mindestens 8 Tage, nach der Entlassung aus dem Spitale gerechnet, in häuslicher Pflege zugebracht hatten. Die Kinder waren im Alter von 4 bis 14 Jahren, und die Summe der sämmtlichen Verpflegstage in den Jahren 1888 und 1889 beläuft sich auf 6,790 und auch 1890 war es so.

Die Leitung des ökonomischen Theiles führen Herr August und Frau Amalie Herzmansky, welche auch sämmtliche Kosten bestreiten.

Was wird z. B. aus Kindern oft, welche nach überstandenen Masern, Blattern, Scharlach und anderen Krankheiten, ihre Reconvalescenz in einer dumpfen Stube ohne die geringste Sorgfalt und Pflege durchmachten?

Im Schulleben haben wir oft die traurigsten Beweise davon. Geistig geweckte Kinder, die ähnlichen Krankheiten anheimfielen, sahen wir sichtlich herabkommen wieder.

Tagtäglich hören wir bittere Klagen nicht nur über unbrauchbare, kränkelnde, sondern auch über sittlich verkommene Menschen, und der Mangel einer brauchbaren Generation macht sich überall fühlbar. Selbst wenn wir Laien nachforschen würden, finden wir, dass die Verkommenheit der meisten Menschen die Folge einer krankhaften, nicht normal verlebten Jugend ist.

Der Staat aber braucht eine gesunde Generation, diese aber wird so lange nicht bestehen, als man nicht ein besonderes Augenmerk, nicht nur den vollkommenen und unvollkommenen Kindern, sondern auch denen zuweiset, welche einer Kinderkrankheit unterworfen waren. Man errichte daher Reconvalescentenhäuser für genesende Kinder, deren Eltern nicht im Stande sind, auch noch während dieses so wichtigen Ueberganges von der Krankheit zur völligen Gesundheit denselben eine besondere Pflege angedeihen zu lassen.

Der Menschheit würde alljährlich eine nicht zu unterschätzende Anzahl vielleicht künftiger Zierden erhalten werden und auch gesunde geistige und dadurch sittliche Zustände jedenfalls in vielen Fällen erreicht werden.

Meine Bitte geht nun dahin, der VII. internationale Congress für Hygiene und Demographie nehme den von mir erstatteten Vortrag nebst dem Berichte über das vom Ehepaar August und Amalie Herzmansky gegründete I. Reconvalescentenhaus zu Weidlingau im Wurzbachthale in Nieder-Oesterreich nächst Wien zur geneigten Kenntnis und befürworte folgende von mir gestellte Resolution: Der VII. internationale Congress für Hygiene und Demographie spricht die dringende Nothwendigkeit aus, dass, um den immer mehr zu Tage tretenden Klagen von unbrauchbaren, kränkelnden und siechen Menschen wirksam Abhilfe zu schaffen,

ausserhalb grosser Städte Reconvalescentenhäuser für Kinder von Gemeinden, vom Lande oder vom Staate zu errichten seien, in welchen nicht nur den aus den Spitälern entlassenen, sondern überhaupt allen jenen Kindern Pflege in ihrer Reconvalescenz zutheil werde, deren Familien nicht in der Lage sind, dazu die nöthigen Erfordernisse aufzubringen.

Denn wahrlich meiner innersten Ueberzeugung nach, werden die Summen, welche Gemeinde, Land und Staat hiefür anwenden, sich reichlich verzinsen und in dem Masse als man darangeht, Reconvalescentenhäuser für die Jugend zu errichten, werden die bedeutend grösseren Auslagen für Spitäler Irren- und Siechenhäuser schwinden und eine bessere, tüchtigere Generation der am höchsten dafür anzuschlagende Gewinn sein!*

Free Dinners for School Children.

BY

The Rev. J. Llwelyn Davies, M.A.

Every one is more or less touched by anything painful in the condition of a young child. There is nothing, perhaps, that stirs the common human indignation more quickly than the sight of cruelty practised upon a child. We cannot bear to think of young children insufficiently fed, or insufficiently clothed, or very badly brought up. But that a considerable number of children are exposed to the chronic pressure of these disadvantages is a fact which we are sometimes compelled to recognise. And the obvious cause of so deplorable a state of things is that those children do not receive from their parents the treatment that we should all wish them to have. The parents are either to be pitied or to be blamed; they are either too poor to give their children what they need, or they are too reckless—spending in drink or other forms of indulgence what ought to go to the support of the family—or they are vicious and give their children a shockingly premature training in vicious habits.

The most thorough-going remedy for this mournful evil, the most unrestrained response to the cry of the suffering children, is a proposal which some benevolent persons do not shrink from advocating, that the State should accept into its charge, from the moment of birth, every child that parents are willing to surrender, and take by force from the

* A model cot and appurtenances used to illustrate this paper were presented by the Author, on behalf of Frau Amalie Hertzmansky, to the North-Eastern Hospital for Children.

parents every child to which they are not doing the minimum of justice. If the magnitude of this remedy takes our breath away, it must be admitted that it has great attractions, and that strong arguments might be adduced in its favour. But the proposal is not yet urged upon the public by any person of weight, or by any large number of persons; and those who are in favour of the scheme would probably expect it to be reached by degrees.

A long way short of this, there is a proposal which appears on advanced programmes of social reform, that a free dinner should be given at the public expense to every child at school who will accept it. It may reasonably be asked, why this gift should be granted rather than other gifts which the interest of society seems equally to ask for. Economically, the provision of a free dinner is a grant of, say 6*d*. a head per week, to all parents of school children who like to take it. But why should such assistance be restricted to a mid-day meal, and to children at school?

It is very important that infant children should be well fed from their birth, and abundant food supplied to mothers for a certain period would be pronounced to be essential for the rearing of healthy children.

Then more injury is often caused by inadequate clothing than by want of food; why should not children be kept well supplied with warm clothing and sound boots? It is argued that a dinner may be regarded as indispensable to education; and that, as the State supplies education, and compels children of a certain age to take it, it is reasonable that food, without which they cannot learn properly, should be supplied with the teaching. At any rate this is the most obvious and easy beginning of grants-in-aid to parents of families.

I should not be disposed to apply the epithet "pauperising" to a public provision of dinners for school children. The worst evil denoted by that term is that of tempting people to be mendicants, and to submit to the ignominy of a searching and suspicious inquiry into their private affairs; and the next is that of tempting them to rely on chances of relief. Anything which is supplied for all persons to take or leave their choice, and which can be relied upon as a certainty, may be compared to a natural advantage, like a stream brought past one's door. But it is a grave question to what extent it is to the public good that parents should be relieved by the State of the burden of maintaining their children. It is from this general point of view that the proposal to offer at least one meal a day to every child attending school should be considered.

But, in the meantime, there is a plan at work already for accomplishing a part of what is aimed at by that scheme. Philanthropy is giving occasional dinners on a considerable scale to selected children, is glorying in its work, and is asking aid to extend this work. Is this a judicious form of relief, and one which ought to be extended? I am afraid there are irresistible reasons for answering 'no' to this question.

The children that receive the charitable dinners are selected. That is an essential feature to the plan. How are they selected?

When the kind-hearted lady, to whom the organisation of dinners for board school children in London is chiefly due, began to consult teachers, the mistress of a large school immediately asked, whether the children of drinking parents were to be recommended for tickets. "Certainly," said the lady, "they are the most to be pitied." And so they undoubtedly are. The most ill-fed and ill-clad children in our schools, for the poorest are sure to be the children of the worst parents. But by the time the scheme was ready to put before the public, it had been seen that there are grave objections to a plan for feeding the children of bad parents, and it was decided that only the children of "respectable" parents should have the dinner tickets given them. A scheme founded on the fact that there are many school children needing good food, began by disfranchising the great majority of them. With a view to the proper selection, the characters of the parents have to be ascertained. The teachers have some means of knowing about the parents, but their knowledge is not complete, and the parents are visited by members of the dinners organisation. This sort of investigation by a visitor is always a painful process, and very apt to be inadequately performed. More or less thoroughly, the parents who are at the same time respectable, and are not able to give the necessary food to their children are sifted out, at the peril of reducing the number too much.

The distribution of tickets to hungry children is made in the schools, and those who evidently want the food most, if they are not bluntly told, are inevitably made to understand that they are refused because their parents are unworthy.

This seems to me, I confess, a most unfortunate feature of the scheme. I cannot imagine that teachers and visitors can bring themselves to be rigid in their exclusions. But the theory is that the help is given only to parents whom, upon the commonly received principles, it is judicious to relieve. The system is thus brought under the head of charitable relief in general. Our sympathy is invited for widows with children to maintain, for families stricken by illness or misfortune. And we are thus led to ask, whether the dinner giving is a good piece of machinery for helping such persons. On the contrary, it is a cumbrous one, working ineffectively, and giving much needless pain. The best way of relieving the poor is through those who have the best and most natural knowledge of them, and the mode of giving should be as respectful and trustful as possible, and the amount large enough to be of some real use. How is a widow, struggling to maintain a couple of children, to be most satisfactorily helped? I do not say that she will not be glad that her children should now and then have a better dinner than she can afford given them; but it will be more acceptable that she should have a weekly allowance that she can depend upon, and that she, the mother, should apply the money according to her own judgment for the benefit of her children.

Any action which takes the children off the parents' hands and makes them the immediate objects of relief is to be deprecated. It is a matter of supreme importance for our social well-being that the

family relations should be maintained in health and strength, that parents should be encouraged and pressed to care properly for their children, and children in their turn to care properly for their parents. This object is so paramount, that neither the State nor philanthropy ought to be easily persuaded, in the pursuit of other desirable ends, to work against it. In the class of the very poor, there are special difficulties in fulfilling family duties. Sound policy would say, not "Let there be no demand of the ful-" filment of family duties amongst the poor"; but "Let us be especially " careful to avoid acts which may tempt the poor to disown them." Thus it is evident that the maintenance of disabled parents is a burden on working people, and good nature would suggest that instead of calling upon sons to maintain their parents, the State should undertake to do it. It was one of the abuses of our Poor Law system in former day, that it gave out-relief easily to old people, and excused the sons. I confidently call this an abuse, because every one who is competent to judge is aware that it did harm, and that great and manifest good has been done upon the whole by a greater strictness in refusing relief to those who have sons able, though with difficulty, to maintain them. Similarly, to assume that young children are to be taken off their parents' hands by the State or philanthropy, is a principle likely to do great harm. It will tempt parents to be neglectful of their children, and the class of young children will themselves on the whole be injured by it. If it were carried out, indeed, to the extreme length, so that the State should take charge, in a kindly spirit, of all children who are in danger of not being happily brought up by their parents, we might be almost fascinated by such a policy; but until we adopt that, all experience concurs with sound theory in urging that parents should be held, to the utmost possible degree, responsible for their children.

What, then, is to be done when parents spend their money in drink, and leave their children only half fed? This is a most painful question, and no answer that can be given to it will satisfy us. You will not mend things by giving food occasionally to the children, because that will be direct encouragement to the recklessness of the parents. Something may be done in extreme cases in the way of deterring the parents by punishment. But we may find most comfort, perhaps, in knowing that the number of such unnatural parents is not large, and is steadily diminishing. Where, however, parents are anxious to do their duty towards the children, but are prevented by extreme poverty from getting for them the food they require, I plead that it is a better plan to give relief trustfully and privately to a parent—better for the strengthening of the family system amongst us, more considerate towards the parent, more effectual in the long run for the children—than to distribute dinner tickets to selected children in schools.

Can hungry and half-clothed Children be efficiently educated?

BY

Mrs. Annie Besant, M.L.S.B.

The two positions that may be taken with regard to the child in the family and in the State are:—(1) That the right of the parent over the child is supreme, and that no State is justified in interfering with that right; and (2) that the child is the future citizen of the State, and as such it is to be regarded by the State of to-day, that the rights of the State for that standard are supreme, and that it may interfere between parent and child, forcing a bad parent to perform at least a minimum of duty, and where the parent does not do so, stepping in itself to supply the needs of the child. With regard to such things as may make it useful to the State, we have decided that all children shall be efficiently educated, and, on righteous grounds, we no longer permit a bad parent to ruin his child by not allowing it to go to school. It is a function of the State to defend its small members against unfair oppression, as when the father and mother keep a child in a condition of ignorance, and so make it impossible that the child can become a useful member of the State. That is to say, we do put the interests of the State above the ties of the family, in order that the child may be able to fulfil the duties which are to be put upon it. Starting from the first grant, which was given by Parliament to the children, we have come to the time when education is not a grace given to the child, but a right which the child can take. We made education free by grace some years ago, for the remission of fees is really making education free for a part of the community. It is now no longer free by grace, but by right. The question is, Is that education to be rendered useless extravagance by giving it to children whose physical condition makes them incapable of assimilating that knowledge? We give it to them for the sake of the State, and it is therefore important that it should be made as useful and efficient as possible. We cannot teach a half-starved child. We may force it to sit and listen to the instruction, but it will be just as wise after it as before: and it is quite certain that children come to our schools in a physical condition which makes their reception of the subjects dealt with an impossibility. It is starvation which makes them so restless that they cannot keep still on the benches. If the child is to be a fit recipient for instruction, it must have its body in a fairly healthy condition; a child that is half-starving is stupid, or is blamed for that fault when the so-called stupidity is merely a physical condition of its brain which makes it unable to understand. If we take the schools in which the children have been supplied with proper food for one or two years, the same children having been left to starve before, we shall find that the results of a Government examination will have undergone a remarkable change. In Sir Henry Peek's schools in one year, during which a daily dinner had been supplied to the children, every child

passed the Government examination. I do not mean to say that giving food will make a child pass an examination, but I do say that starving it will make it unable to pass any examination at all. What is called over-pressure in our schools is generally under-feeding. Pains are taken to prevent the education being too hard to bear, but all this will be no good unless the children are in a fit physical condition to receive the instruction given by the teacher. If we were to ask the teachers what was their greatest difficulty, we should find it was the under-feeding of the children. In Mr. Davies' paper an objection, which was the commonest of all, was raised, namely, "Any action which "takes the children off the parents' hands and makes them the immediate "objects of relief is to be deprecated. It is a matter of supreme "importance for our social well-being that the family relations should "be maintained in health and strength, that parents should be encouraged "to care properly for their children, and children in turn for their "parents." And he then asks, "What, then, is to be done when parents "spend their money in drink, and leave their children only half fed?" That was a difficult question to answer, and he has not tried to answer it at all. My reply would be that he could not maintain his position, once the State had interfered and imposed burdens on the child which it could not bear at all. A half-starving child in the gutter would get dragged up somehow, more or less; but when taken away, a mental strain was put upon it, a burden which it was unable to bear. As regards the parent, all further responsibility would be taken from him. That child in the home of the very poor is a machine for making money, and out of the pennies which it begged, stole, or earned, a farthing would now and then go for its own food. If the child were taken away, the father would be deprived of his natural right to live upon part of the labour of his child. They had no right to punish the child because the parent was evil.

L'Enfant Pauvre.

PAR

THÉOPHILE ROUSSEL, Sénateur, Paris.

L'article du Programme du Congrès qui a pour l'objet "L'enfant "dans des conditions anormales, comprend les *enfants pauvres et les* "*enfants à tendances criminelles ou placés dans un milieu criminel*, "c'est-à-dire, deux catégories très différentes au point de vue des "mésures d'hygiène morale et physique que chacune d'elles réclame "pour changer leur condition et leur donner une valeur sociale suffisante "pour qu'ils deviennent des êtres utiles à leurs semblables et à eux-"mèmes."

Pour *l'enfant pauvre*, proprement dit, à moins qu'on ne veuille parler d'une société idéale, il semble que sa condition n'est pas anormale, car l'histoire nous montre la pauvreté, la misère même, comme un fait si constant dans les sociétés de tous les temps, qu'elle paraît être un fait naturel, une condition normale, et comme un des éléments constitutifs de toute grande agglomération d'hommes. Il n'est pas moins vrai que l'état de pauvreté a des influences si nuisibles au développement de l'enfant, physiquement et moralement, que les sociétés civilisées ont le devoir de les combattre non seulement par les forces de l'initiative privée et des associations charitables, mais par l'intervention de l'autorité publique et des lois.

Pour le nouveau né, le nourrisson, l'enfant du premier âge, la pauvreté qui assujétit sa mère au travail hors de son foyer a pour conséquence la privation du lait et des soins maternels, c'est-à-dire, de ce qui est le plus nécessaire à l'existence humaine à ses débuts.

Contre ce mal, qui s'est considérablement aggravé avec les progrès de l'industrie moderne le programme du Congrès semble opposer les *crèches*. Partout en effet où des mères ouvrières veulent faire un effort pour donner à leur enfant leurs soins et le temps que le travail n'absorbe pas, une crêche bien installée, bien surveillée, est un grand bienfait. Ceux qui ont prétendu, en théorie, qu'elle n'est qu'un mal nécessaire ne pourraient pas soutenir, en fait, qu'elle est, pour un grand nombre d'enfants malheureux, le seul moyen d'échapper aux dangers qui rendent si précaire la vie de l'enfant du premier âge.

Une autre anomalie funeste au premier âge a pris un développement considérable, surtout dans les grands centres de population : je parle du nourrisage mercenaire et de l'allaitement artificiel qui ont pris la place de l'allaitement maternel. Il s'est développé ainsi une industrie malsaine dont les effets sur la mortalité infantile ont amené le vote par le Parlement français d'une loi ayant pour object "*la Protection des* "*enfants du premier âge et en particulier des nourrisons.*" D'après l'Article 1[er] de cette loi : "*Tout enfant de moins de deux ans, qui est* "*placé, moyennant salaire, en nourice, en sevrage, ou en garde, hors* "*du domicile de ses parents, devient, par ce fait, l'objet d'une* "*surveillance de l'autorité publique, ayant pour but de protéger sa vie* "*et sa santé.*"

Ce controle protecteur, organisé aujourd'hui dans presque tous les départements, suit le nourrisson dans tous ses déplacements ; une inspection médicale particulière surveille et dirige son hygiène ainsi que les pratiques des nourrices. Les Rapports présentés chaque année aux conseils généraux ont mis hors de doute l'efficacité de cette loi et ses résultats déjà considérables.

Cette question m'a paru mériter d'être ajoutée à celles qu'indique le Programme du Congrès, parceque d'autres pays que le mien, souffrant, à des degrés variés, du même mal, gagneraient à l'organisation d'une protection légale de l'enfant livré au nourrisage mercenaire.

L'enfant pauvre, en particulier celui des filles-mères pauvres est devenu, en France, l'objet de mesures protectrices que je dois signaler encore à cause de l'excellence des résultats pour son hygiène physique

et morale; je parle du service des *secours temporaires* accordés par l'assistance publique aux filles-mères, mères pauvres qui nourrissent et gardent près d'elles leur enfant, et accordés aussi dans plusieurs départements aux mères légitimes dont l'indigence pourrait amener l'abandon de l'enfant.

L'origine du *secours temporaire* se rattache à la suppression d'un autre service que l'Angleterre et les pays germaniques n'ont pas admis dans leur assistance, que la Belgique a supprimé avant la France, et dont la France se sert encore, le service de *Tours*. Les services que le Tour a rendus jadis en prévenant l'abandon des enfants qu'on ramaissait, vivants ou morts, aux portes des églises, sur les places publiques, ou le long des chemins, étaient compensés par des abus vainement combattus, sous l'ancien régime à l'aide de mesures plus ou moins sévères. Une loi, le Décret-loi, du 19 janvier 1810, a eu pour objet d'arrêter la multiplication des Tours, de régler leur emploi; mais l'expérience des 20 années qui ont suivi, à côté d'un avantage incontestable du Tour, la seul, celui de protéger le sécret des mères, filles ou femmes, réduites à la necessité d'accoucher clandestinement, a révélé des inconvénients tels pour la vie, la santé et l'avenir de l'enfant que l'emploi de cette machine tournante, condamné par l'opinion, a été successivement abandonné par tous les Conseils Généraux des Départements.

Mais supprimer le Tour ne suffisait pas, il fallait le remplacer par des mesures d'assistance propres à atteindre le double but en vue du quel le Tour avait été jadis imaginé. On peut dire aujourd'hui que si les efforts des administrations d'assistance publique n'ont pas obtenus partout ce résultat, on est en présence, dans plus d'un département, notamment celui de la Seine d'un système de mesures préventives qui sauvegarde à la fois le sécret des mères qui en ont besoin et l'intérêt supérieur de la vie, de la santé et de l'éducation de l'enfant. Ces mesures sont:—1°. La Maison de Maternité avec le sécret absolu. 2°. Le Bureau d'Admission de l'Enfant sans enquête. 3°. Le secours temporaire aux mères indigentes qui ne cachent pas leur maternité et gardent leur enfant.

Ce dernier moyen d'assistance s'est étendu de plus en plus dans la pratique de l'assistance publique, à mesure que l'expérience mettait en évidence cette vérité de fait, que pour la très grande majorité des filles-mères la question principale n'est pas celle du sécret, mais celle d'un secours pécuniaire assuré, suffisant pour qu'elle puisse supporter les charges de la maternité. Ce secours suffit en effet presque toujours pour rendre au sentiment maternel de la fille-mère pauvre toute sa force naturelle et les Annales des Services publics des *Enfants secourus* est aujourd'hui riche de faits qui prouvent que la présence de l'enfant naturel au foyer maternel contribue à rendre ce foyer respectable, souvent à y ramener le père et faire naître en lui des sentiments dont le mariage et la légitimation de l'enfant sont le fruit. Enfin, par ce bienfait capital de rattacher l'enfant à la vie de famille par un lien destiné à se fortifier de plus en plus, le *secours temporaire* assure à l'enfant pauvre les meilleures

conditions pour son développement physique comme pour son hygiène morale.

Le Programme du Congrès touche ensuite aux questions de *l'éducation de l'enfant pauvre, par l'état, par les institutions philanthropiques ;* celle de sa *nourriture*, de son *vêtement* à l'école, et celle de son placement en pension (*boarding-out*) chez des particuliers. Le Règlement du Congrès ne permet pas d'entrer dans les détails, et je me tiendrai aux principes d'après les quels la solution des ces questions doit être réglée.

Je ferai toutefois une observation : le Programme, comme c'était naturel ici, vise plus particulièrement les institutions anglaises, dont l'histoire, en ce qui concerne l'enfant pauvre est pleine d'intérêt et d'utiles leçons pour tous les pays.

L'Act célèbre de la 43e anné du Regne d'Elisabeth (1602) qui a fait de l'assistance des indigents une charge obligatoire des paroisses ne contient pas des dispositions particulières pour l'enfance ! L'enfant pauvre prenait sa part à *l'out-door* ou à la *indoor-relief*, c'est-à-dire, au le secours à domicile ou au *workhouse*, concurrement avec ses parents, et le temps n'est pas éloigne où ce triste refuge de la misère ne contenait pas d'autre compartiment réservé à l'enfant que celui d'une école pour les heures de classe. Pour l'enfant déguenille laissé dans les rues, *l'Arab-Boy*, une amélioration sérieuse a commencé par la création d'écoles (*Day Schools, Ragged Schools*), qui lui donnent pendant le jour un asile, l'instruction, la nourriture et des vêtements. Quant à l'enfant livré à la promiscuité du *workhouse*, malgré les prescriptions d'un Act de 1834, qui faisait une règle aux paroisses de séparer entr'elles les diverses catégories de la population admise à *l'indoor-relief* le changement de situation des enfants n'a commencé qu'à la suite du mouvement qui a grouppé les paroisses en circonscriptions d'assistance plus grandes sous le nom d'*Unions* et les *Unions* en circonscription plus grandes encore appelés *Districts*. Des ressources financières suffisantes ont permis dès lors, de faire sortir les enfants de l'enceinte des *workhouses*, de créer pour eux des écoles *séparées* (*separate schools*), et l'on a vu s'élever ces immenses écoles de *District* contenant la plupart plus de 800 enfants, quelque unes presque le double, et dont les inconvénients principaux viennent de leur immensité même.

Le texte du programme invite à opposer le *système du Poor Law District Schools*, au système du *boarding-out*, improprement traduit dans l'édition française par le mot *pensionnat*, et qui est le système du placement en pension chez des particuliers, dans des familles agricoles ou industrielles. Cette question est aujourd'hui jugée. En France, où le placement des enfants à la campagne est la pratique traditionnelle de l'assistance publique, elle l'est depuis longtemps, et en Angleterre même l'expérience déjà longue du régime des *Separate or District pauper Schools* ne peut laisser de doute à personne. Les épidémies d'ophthalmies et les maladies contagieuses qui sévissent, par prédilection, sur ces énormes agglomérations d'enfants pauvres ; les difficultés pour un apprentissage professionnel suffisant, enfin l'énormité des dépenses ont

fait naître un nouveau courant d'opinion qui depuis un certain nombre d'années, après avoir entrainé les meilleurs esprits, semble avoir convaincu tout le monde. Un des hommes qui se sont le plus occupés de ces questions, M. Francis Peek, démontrait en 1885, que pour l'éducation d'un enfant à l'école de district, les contribuables payent au moins double de ce qu'ils payent pour l'éducation de leur propre enfant et Lord De la Warr, dans le Parlement, comparant le système de ces écoles à celui du *boarding-out*, montrait que dans le premier la dépense moyenne d'un enfant par semaine est d'environ 10 shellings, tandis qu'elle ne dépasse pas 5 shellings dans le second. De pareilles différences financières, s'ajoutant à celles non moins évidentes des effets des deux systèmes sur le développement physique, moral et professionnel ne permettaient plus aucun doute, et assuraient au *boarding-out* la faveur et le succès dans un pays aussi pratique que la Grande Bretagne.

C'est toutefois sous la forme la moins advantageuse qu'a commencé l'application de ce système par l'envoie d'enfants en placement dans les colonies, au Canada, ou même aux Etats-Unis. Plusieurs millions d'enfants ont pu trouver ainsi, au loin un sort meilleur que celui qu'ils auraient eu au sortir des *District Schools*; mais on s'est aperçu des inconvénients de ces émigrations qui étaient d'ailleurs sans influence sur le pauperisme. L'Écosse a montré la première que la vraie pratique du *boarding-out* c'est le placement, à l'intérieur du pays, dans des *homes* bien choisis et régulièrement visités. Les succès de cette pratique ont été à plusieurs reprises constatés dans les Chambres Anglaises avec l'expression du désir que le système reçoive la plus grande extension possible, et, suivant les expressions de Lord Aberdare entr'autres, soit appliqué à tous les *enfants "qui lui sont propres"* (*who are proper subjects to it*).

Je lisais dans une des publications si utiles du Howard Association qu'un Visiteur d'Enfants du comté d Nottingham rendant compte de sa mission disait :—"En parcourant différents villages j'ai été frappé du "développement à la fois physique et moral de ces enfants. La vie "saine, au grand air, qu'ils mènent dans les champs produit les plus "surpassantes transformations, faisant de quelque chose de triste et "pénible à voir, de jeunes êtres du plus heureux aspect, qui con-"sidèrent comme leur maison paternelle les *homes* qui les ont reçus et "sont considérés par les nourriciers qui les gardent comme leurs "propres enfants." Cet agréable et consolant spectacle est celui que les services d'enfants assistés de France nous donnent depuis longues années dans l'ancienne patrie du *boarding-out*.

En résumé, de l'expérience aujourd'hui décisive partout il ressort les conclusions suivantes :—

Pour l'hygiène de l'enfant pauvre, pour son développement physique et moral et son éducation professionelle, le régime le meilleur est la vie de famille lorsque la famille est honnête; si la pauvreté fait obstacle à l'education de l'enfant c'est par le secours à domicile qu'il doit y être pourvu, secours en vêtements, nourriture, livres, etc. Là où la famille n'existe pas ou si le foyer maternel est éteint, c'est au *boarding-out* qu'il

faut recourir, c'est-à-dire, à un placement de l'enfant dans une famille honnête où il retrouvera un foyer domestique et recevra l'éducation commune à la masse laborieuse et saine de ses concitoyens.

L'internat, dans le sens français de ce mot, c'est-à-dire toute agglomération d'enfants dans un établissement en vue de leur éducation a beaucoup perdu de son ancienne faveur pour l'éducation des enfants riches ; pour les pauvres il pourra rester encore trop souvent un mal nécessaire ; mais il devra toujours être considéré comme un pis aller, même lorsqu'il s'agit d'un établissement de l'état. Dans les établissements charitables le mal est plus à redouter encore. D'une grande enquête faite en France, il y a dix ans, sur la demande d'une commission du Sénat dont j'avais l'honneur d'être le Rapporteur, il est ressorti, que les orphélinats et autres établissements de charité consacrés à l'enfance, même lorsque le pur esprit de charité préside à leur création, doivent tous être soumis à la surveillance de l'autorité publique ; que dans un très grand nombre, l'éducation professionnelle est défectueuse, et la préparation à une vie de travail utile, insuffisante ; enfin et surtout que dans beaucoup de ces institutions, l'éducation proprement dite est complètement subordonnée au profit de l'établissement qui ne vit que par l'exploitation de la main d'œuvres des enfants.

Ces conclusions que j'ai l'honneur de soumettre au Congrès sont les résultats d'observations incontestables ; leur importance sociale n'a pas besoin d'être demontrée ; j'espère qu'elles ressortiront davantage des délibérations du Congrès.

DISCUSSION.

Dr. Chalmers (Lanarkshire) referred to the prevalence of thriftlessness and crime as being quite unaffected by the amount of earnings of parents. Either or both might be regarded as crime, but the children should not be made to suffer in consequence. Food and clothing were prominent necessities for the children, and we should not deny them.

Dr. Pankhurst said that the paper of Mr. Davies, and the eloquent address of Mrs. Besant, had brought before the Congress a most important and momentous aspect connected with the education of the young. For more than 50 years the country has laboured to make elementary education universal, compulsory, and free. Now we are confronted with the question of providing for the young thus compelled to be at school food and clothing. The case for this provision is made out. Two objections are urged. One is that this course will relieve bad parents of their duty, while, on the other hand, if the children of poor parents get this provision, the parents of children who can pay for this provision will escape. Though I think the question of food and clothing stand on the same ground of principle, yet the food question is simpler.

I venture to suggest that it is not the right course to give the money for the food to the parents. The food should be supplied at the place where the education is given at the public charge. Again, there ought to be no selection of the children to be fed on the part of the public

authorities. Any selection should be self-acting. The provision should be open to all the children. All the children should be invited. As this provision is put on the ground of its necessity for the children, so it should be extended as far as the necessity extends.

If the public reasons for this provision of food were displayed in full statement in the school, then it should be left to the conscience and morality of the children of parents who can pay for their food to accept or decline this provision. For myself, I am for the provision of food and clothing to all children who need it, in so far as they are in compulsory attendance at public elementary schools.

Mr. Lloyd Baker said:—My experience is taken from country schools, but I think that human nature is the same everywhere. Mrs. Besant wishes that children should know that, when their parents neglect them, the State will take care of them. I fear that, when they grow up, they will feel that the State will provide for their children, and others will feel it also. Improvident marriages will certainly increase. Mrs. Besant desires that we should carry our views to a logical conclusion. If her views are carried to their conclusion, the State will have to provide for every need, until our children will be like those French chickens, which are hatched in an incubator, brought up by an artificial mother, and are unable to rear their young, or even feed themselves, so that they have to be fed by a machine, and are only fit to be killed.

Lord Meath remarked that there was a great deal to be said on both sides of the question, but that, in the main, he believed in Mrs. Besant's proposition. He proposed that dinners should be supplied in all schools, but that payment should be demanded for them of the parents. If the parents did not pay, the school authorities should inquire the reason why the payment is not forthcoming; if it was owing to poverty, the parent should be declared a pauper, and the dinners be paid by the poor-law authorities, the parents naturally suffering the penalties of pauperism; if it was owing to drunkenness or criminality, the parents should be considered as criminals, and be punished for neglecting to pay the cost of the dinner provided by the authorities for their offspring.

Professor James Mavor described the institution of the Caisse d'Ecole, in Paris, where dinners and clothes are sold to the children of the board schools and given to the destitute; he also remarked that the words "home" and "family" did nct apply in the cases of destitute children.

Dr. Holden (Preston) entirely supported Mrs. Besant's resolution, because, having had a long experience amongst working people in a manufacturing town, he knew the great difficulty found in families where the wife is compelled to go to work, to provide a good nourishing mid-day meal for the children, and the tendency to substitute a makeshift dinner of tea and bread, which is totally insufficient, tending to produce a delicate childhood and ill-developed maturity.

Friday, 14th August 1891.

The Chair was successively occupied by:—
The PRESIDENT;
Dr. J. LANGDON DOWNE.

The Care and Treatment of Epileptic, Mentally Feeble, and Imbecile Children.*

BY

FLETCHER BEACH, M.B., F.R.C.P., Medical Superintendent of the Darenth Asylum for Imbecile Children.

Three perfectly distinct classes of children are here referred to, and the care and treatment of each should proceed on different lines. With respect to the first class, little has yet been accomplished. Besides the home for epileptics at Maghull, which was started, I believe, by Dr. Alexander, and a home or two carried on by private persons, nothing has yet been done in England for these cases. Some time ago the Charity Organization Society suggested that workshops should be established for them, where they could go to work during the day, returning home at night, but the suggestion was not carried out. I would propose that homes should be provided for them, where they could be cared for and treated mentally and physically, and where proper medical treatment could be pursued. It is well known that, by the exhibition of suitable drugs, epileptic fits in the young can to a great extent be lessened, and in some cases the convulsions entirely disappear. Many of these cases attend the out-patient departments of children's hospitals; but as soon as the treatment begins to take effect the parents discontinue bringing them, and the patients cannot afterwards be traced. Besides this objection, there is the fact that no mental or physical treatment is possible. Children subject to severe epileptic fits will not be admitted to an ordinary school, and are thus debarred from participating in the education so necessary for their mental condition.

At the Bicêtre, in Paris, epileptics are trained in the same institution as idiots and imbeciles, but this has been objected to in England, and rightly so, I think, as the mental condition of epileptics is usually far above that of idiots and imbeciles, and the massing of the former with the latter class will not improve the imbecile, and is more likely to cause deterioration in the epileptic. If a home were started for them, education suited to their condition could be pursued, and they could be

* In this paper reference is made especially to the children of the poorer classes, and not to those of the middle and upper classes, who are able to make provision for their offspring.

taught different trades, while at the same time drugs, which are known to diminish the fits, could be exhibited. Some may object to homes being specially provided, but if these children are simply sent to day-schools, where special treatment is carried on, it will be impossible to supervise their diet, in itself an important matter, to establish cleanly habits, and to see that they sleep in rooms sufficiently aired. Besides this, it will be impossible to keep them from possible states of excitement in their own family, and to see that the medicine prescribed is given. Institutions, such as I have referred to, might be supported by voluntary contributions, and guardians should have the power of sending epileptics to such institutions in the same way as they do the blind, deaf, and dumb.

The care and treatment of the feeble-minded is a much larger question, and committees of the Charity Organisation Society and British Medical Association have for some time been working at it. Official bodies have also had the question before them. The Royal Commission on the Blind, Deaf, and Dumb, &c. came to the conclusion: "That with regard to 'feeble-minded' children, they should be "separated from ordinary scholars in public elementary schools, in "order that they may receive special instruction, and that the attention "of school authorities be particularly directed to this object." It is interesting to know that the School Board of London have adopted this suggestion, and are now making the necessary provision for such cases.

In 1888 the Psychological Section of the British Medical Association appointed a committee to investigate the physical condition of the child population. Fourteen schools, containing 5,344 children, were visited, and notes were taken of 809. Mental dulness, combined with other abnormalities, were observed or reported in 231 cases. Since that time a further investigation has been made by Dr. Warner, in conjunction with Drs. Rogers and Rayner, or with the medical superintendents and teachers at the several schools, and 50,000 children have passed under observation. Notes have been taken of 9,186 cases. Union district, certified industrial, public elementary, and some other schools were visited. An analysis of the cases seen has been made by Dr. Warner, who has classified them, showing the co-relation of mental dulness, as reported by the teachers, with defects in physical development, abnormal nerve-signs, and low nutrition. 234 were said to be mentally exceptional, and full particulars of these are given. I have appended to this paper a table kindly supplied to me by Dr. Warner, giving various particulars, and showing the number of the mentally dull and those suffering from other abnormal conditions in the 50,000 who passed under observation.

There is no doubt that for feeble-minded children special instruction, similar to that which the London School Board contemplates, should be provided. There is not so much objection to the education of children of this class at day schools, as in the case of epileptics, and though treatment in institutions specially erected would probably be attended with better results, it may perhaps be well at first to make a trial in day schools, where instruction suitable to their mental capacity

can be obtained. There is a precedent for this, for in Norway and Germany auxiliary schools have for some time been established for the very purpose of training mentally feeble children. Into these schools are drafted those who are quite unable to follow the teaching in the national schools, whereas in the auxiliary schools instruction adapted to their powers of reception is given by teachers experienced in the methods required to call out the faculties of such cases. The teaching is arduous, and not more than 20 children should be placed in one class.

There is another point which requires to be considered. If the teaching of the feeble-minded is neglected, not only do the girls, as they reach maturity, lead immoral lives, but many of them, as well as the males, swell the ranks of the criminal population. Some time ago the National Vigilance Society made inquiries as to the number of feeble-minded girls and women in workhouses and infirmaries, and they found that, though their returns were incomplete, during the year 1889 no less than 715 weak-minded women passed through 105 workhouses, and that at 56 workhouses the approximate number of such women leading immoral lives was 366. The Reformatory and Refuge Union have also considered the question, and both this body and the Vigilance Society are anxious, not only that provision should be made for the adult feeble-minded, but that weak-minded children should be educated and trained. There is no doubt that the immoral and criminal tendencies of weak-minded adults are largely due to want of will power and moral control, and there is a hope that the number of such cases may be lessened by educating and training the weak-minded when young and at a time when the character is plastic and can be easily moulded. Personally, I am in favour of detaining the weak-minded adults in an institution where they can be suitably employed and where they may lead happy and useful lives. At present their condition is often most wretched, and details of cases which have recently come under my notice show that many of them live a neglected and degraded life, and are treated more like beasts of burden than human beings. To allow these women to be at large is simply to increase the number of weak-minded and imbecile children from year to year, and therefore from a merely financial point of view it would seem cheaper to detain them and prevent them from mixing with bad characters in the outside world. If, however, you do not care to go so far as this, then I say it would be wise to take advantage of the Act of Parliament which was passed in 1867, by which "Guardians may provide for the reception and maintenance "and instruction of any adult pauper being blind or deaf and dumb, in "any hospital or institution established for the reception of persons "suffering under such infirmities, and may pay the charges incurred in "the conveyance of such pauper to and from the same, as well as those "incurred in his maintenance support, and instruction therein." All that we have to do is to ask the Local Government Board to extend the facilities now provided for the blind, deaf and dumb to the feeble-minded. To do nothing involves a very great expense—to do something a much less one.

Passing now to the care and treatment of imbecile children, I would remark that the accommodation now provided for them is markedly deficient. The number of idiots and imbeciles in England and Wales returned in the householder's schedules at the census of 1881 was 32,717, but the returns are undoubtedly far below the actual number, owing to the disinclination of parents to conclude that their children are so far affected as to render it necessary to return them as idiots or imbeciles. Of these at least 7,000 are between 5 and 20 years of age, the period during which training and treatment is best undergone and, no doubt, the returns of the late census will add 1,000 or 2,000 more to the number. Accommodation, however, is at present only provided for about 2,400 of these, so that there are at the lowest computation 4,000 for whom provision should be made. Many of these are kept in workhouses, where there is no attempt at training, or they are confined in the wards of lunatic asylums, where, not only is no improvement possible, but the patients actually suffer; they are bewildered and frightened by the noise of those who are acutely maniacal, and they imitate the bad habits of the lunatics with whom they are associated.

From time to time committees have considered this subject. Some time ago a Special Committee of the Charity Organization Society went fully into the matter, and recommended that schools for paupers idiots and imbeciles should be built, capable of accommodating 500 children, and that for those above the pauper class, institutions supported by voluntary contributions should be provided. Unfortunately no action followed. In 1887 another committee considered the matter, especially with reference to the non-pauper cases, and an effort was made to obtain funds under the City of London Parochial Charities Act of 1883. Section 14 appeared to warrant the application for a grant of funds for the purpose, for it refers to "the promoting the education of the poorer inhabitants of the metropolis," and goes on to state, "and generally to "the improving, by the above or by any other means which to the "Commissioners may seem good, the physical, social, and moral "condition of the poorer inhabitants of the metropolis." A formal application to the Charity Commissioners was made, and though the deputation was courteously received, no grant was obtained. There is no doubt that more voluntary institutions should be erected, and buildings for paupers should be constructed, either in the grounds of the existing lunatic asylum, or, what is better, quite separately therefrom. In the more populated counties, such as Lancashire, Yorkshire, &c., there would no doubt be a sufficient number to warrant the erection of a separate institution, while in centres purely agricultural, two or three counties could combine together to build an asylum. At any rate, every county or combination of counties should have its idiot as well as its lunatic asylum.

It may perhaps be interesting to relate shortly the kind of training which is given in institutions for idiots and imbeciles. We have, firstly, to strengthen the body and alleviate its defects, and, secondly, to undertake the special teaching of the mind. The first and most important part of the training is that which concerns the physical condition. The

muscles which are wasted must be nourished by calling their functions into activity, and the want of co-ordination, evidenced by the entire absence of the ordinary precision of muscular movement, has to be corrected by properly applied exercises. The automatic movements, due to the want of the controlling power of the will, must be replaced by others upon certain definite plans. Then, the muscular system being strengthened, the hands have less difficulty in performing any simple act, locomotion is improved, dribbling from the mouth disappears, the eyes wander less restlessly, and the listlessness and, to a great extent, the inertness disappear. The moral treatment goes on side by side with the physical and mental treatment. Obedience must be taught, and efforts made to impart good temper and affection. The child has to learn these good qualities through the agency of the teachers and attendants, who have to use every effort to improve the moral qualities of those confided to their care.

The intellectual training in the lowest class commences by the cultivation of the senses, and as the tactile function is the most important we commence by educating the sense of touch. This may be trained by use of nailboards, by fitting square, circular, and oblong pieces of wood into corresponding depressions, by threading beads, building with bricks and numerous other exercises too numerous to mention. The sense of sight is educated in colour by the aid of paper of various colours which the child should match, and by coloured cups and balls which he should pair; in form, by the use of the squares, circles, &c. before mentioned; in dimension, by the use of pieces of wood of different lengths; and in the notion of distance by making the pupil separate objects from one another, and then take measurements from point to point. The sense of hearing is trained by teaching the child to discriminate between the various sounds presented to his ear, or by the aid of music, of which nearly all imbeciles are fond. The senses of taste and smell are awakened by a series of experiments, and the qualities of objects thus ascertained. In every case we proceed from the simple to the complex, teaching ideas by the use of concrete forms and not by abstract notions. Having educated the senses, we proceed to higher branches of learning, giving instruction in the alphabet, reading, spelling, writing, arithmetic, drawing, the idea of weight and the value of money. When some progress has been made, instruction in tailoring, shoemaking, carpentering, mat and brush making, and gardening for the boys, and in domestic work and sewing for the girls proves useful, alternating the industrial with the purely intellectual training. Varied amusements have, of course, to be provided.

In conclusion, I would venture to express the hope that the result of this Congress may be to direct attention more forcibly to the three classes of cases, which are the subject of my paper, and to incite public bodies to make further provision for the improvement of their physical and mental condition.

GENERAL RETURN from an INQUIRY into the CONDITION of 50,027 CHILDREN.

Cranial abnormalities	2,576	Eye movements defective	1,283
Ear defects	1,315	Head balance weak	538
Epicanthics	898	Hand weak	1,219
Palate defective	1,331	Hand nervous	1,066
Other defect of body	1,553	Finger twitches	706
General balance weak	374	Lordosis	463
Expression defective	1,168	Other abnormal nerve signs	668
Frontals overact	1,616	Nutrition low	2,003
Corrugation	239	Eye cases	1,473
O. Oculi relaxed	865	Mentally dull	3,679*

* Children feeble or abnormal in mental status are included here.

The Care of the "Mentally-feeble" Child (as distinguished from the "Imbecile").

BY

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I have ventured to select from the official programme of Section IV. of the Congress the terms used to designate two classes of imperfectly constituted children, and to place them in contradistinction, in order to offer a few remarks upon the care of those designated "mentally-feeble."

Presuming that the term "imbecile" is intended to cover the case of the "idiot," and thus to comprehend the grosser forms of mental defect, I take it that the term "mentally feeble" is intended to be applied to those children whose mental endowments are so poor, or so peculiar, as to render them unfit for the ordinary curriculum of the public elementary school, though they may not be disqualified for family life at home.

It is common enough in upper and middle class circles to hear of some unfortunate who is the "fool of the family," but who, nevertheless, thanks to special educational efforts on his behalf, ultimately becomes a very decent member of society. Amongst the more necessitous classes it is of course only to be expected that mentally-feeble children should be frequently met with; but for them no special educational provision has, until quite recently, been made in this country. Having myself, during the last seven years, taken such opportunities as presented

themselves of advocating the establishment, in connexion with our elementary school system, of special classes for such exceptional children—notably at the London "Conference on School Hygiene" in 1884,* and at the "Manchester Conference on Education under Healthy Conditions" in 1885—† I rejoice to find that the London School Board is about to inaugurate "classes or schools for children who by reason of "physical or mental defects cannot be properly taught in the ordinary "schools." This is, so far as I know, the first attempt to minister to the special needs of the "mentally-feeble" in connexion with the public elementary schools in this country; though for some years past arrangements have made for this purpose in Norway, Germany, and some of the Swiss cantons. I may perhaps be allowed to quote from a memorandum drawn up for the use of the Royal Commission on the Blind, the Deaf and Dumb, &c., the following paragraphs as to special classes for abnormal children in Norway, which I visited in 1887.‡

"In Christiania and in Bergen special classes are organised, in connexion with the public elementary school system, for the separate instruction of such pupils as are found incapable, in consequence of nervous or mental "abnormality," of following the ordinary school curriculum.

"In class rooms forming part of a large public elementary school in the east of Christiania I found 28 'abnormal' children being instructed by three teachers. A few children suffered from defects of sight or hearing only, but the majority furnished evidence of mental or nervous defect, not, however, amounting to actual idiocy. The organisation of the classes had been entrusted by the school board to Herr J. A. Lippestad, the esteemed Director of the Institution for Imbeciles at Thorshang, Christiania, and the teachers had been trained by him, one of those I saw being also engaged at the institution. The methods used were those found effective in the improvement of imbecile children, viz., exercises to fix the attention, to quicken the perceptions by cultivating the senses, to overcome nervous irregularities by specially adapted drill, and to promote industrial usefulness and moral control. The teaching appliances comprised ample material for pictorial, object, and practical lessons, the ratio of teachers to pupils being about 1 to 10 (instead of as in the ordinary school 1 to 30), allowing of a fair amount of individual attention. Herr Lippestad gives a generally favourable account of the results attained. Many of the pupils, after special instruction for a year or more in these classes, are enabled to join the ordinary school, whilst some complete their education in these classes to the standard required for 'confirmation' (which in Scandinavian countries is regarded as an essential preliminary to earning a livelihood). The drawbacks to more complete success, according to Herr Lippestad's

* *See* "Health Exhibition Literature," Vol. XII., p. 560.

† *See* "Proceedings of Conference on Education under Healthy Conditions, Manchester, 1885, p. 219.

‡ *See* Appendix, Report, Royal Commission, p. 370.

experience, are the comparatively short time spent by the children each day under the influence of their teachers, and the depressing influences, both moral and physical, of home life in the case of the more necessitous.

"In Bergen the auxiliary classes were under the care of Herr Soethre, Principal of the Institution for Imbeciles at Ekelund, and the instruction is given by teachers from that institution. Thirty-five children out of 5,000 attending the public elementary schools are at present in these auxiliary classes. The classes are held from three to six each afternoon in premises apart from the ordinary school. Four teachers are provided, and the capitation grant (which in this case covers the expenses of school premises and apparatus) is 125 kröne per annum (equivalent to about 6*l.* 19*s.*). In the highest class the pupils were able to read, to write from dictation, and to work sums in the simple rules of arithmetic."

From correspondence with Herr Lippestad I learn that the Christiania classes were established in 1874, and that the average attendance is about 90 children (from the 15,000 attending the public elementary schools). The classes are held in the afternoons only in two of the board schools selected so as to be as convenient as practicable for access from the homes of the pupils. The annual cost is about 6*l.* 15*s.* each pupil. Herr Lippestad divides the pupils according to results, into four categories, viz.:—

1. Those who after two or three years special teaching can be brought back into the ordinary school.
2. Those continuing in these classes till prepared for confirmation.
3. Those for whom these classes are found insufficient. Such, after being tried for a time, are sent to special institutions for imbeciles.
4. Those utterly ineducable, who after full trial are dismissed to their homes.

In Germany, "auxiliary" schools for exceptional children have been established at Dresden, Leipsic, Gera, Hulberstadt, Cologne, and Brunswick. Herr Kielhorn, the able principal of the school at Brunswick, thus describes his objects and methods. "The auxiliary school," he says, "is designed for such children as, after a trial of at least two "years in a public elementary school, have not proved competent for "promotion, so that an equal progress with their schoolmates is "impossible. On the other hand, those children are excluded from "attendance at the auxiliary school who, in consequence of too low "mental capacity, or of too great bodily infirmity, or of insufficient "home care, are better assigned to a special institution. . . . . "In the auxiliary school it is essential to develop by every means, and "concurrently, the mental and bodily powers of the children to the "utmost extent possible. As the teacher must specially adapt himself to "the peculiarities of each child, and having regard to the small capacity "of the pupils, must make sure, by constant repetition of what has "been learnt, the scope of instruction must necessarily be restricted."*

* *See* remarks by author in "Journal of Mental Science," April, 1888. Page 80, seq.

It is notable that the cultivation of the senses, and the training of the hand, form important items in the scheme of instruction.

In the selection of pupils suitable for special schools or classes for the mentally feeble, considerations of a general and physical character come into play. Such children are often the victims of their surroundings; and the lack of judicious home care may grievously interfere with the beneficial effect of special training at school. Mentally feeble children are, frequently, also physically feeble; and retarded mental development often co-exists with a low state of nutrition. Inherited tendencies to nervous weakness account for many cases of irregular or defective mental action. In the cases just referred to, it may be a question whether a boarding institution in the country, with the advantages of medical and hygienic care, would not be preferable to even specially adapted instruction in a town school. Dr. Francis Warner, whose valuable researches as to the condition of elementary school children, as regards their physical development and brain state, are well known, rightly lays much stress upon the skilled interpretation of postures and movements as signs of irregular nerve and brain action. He cites as examples of children "for whom the average education is "not suited, nervous, irritable children with headaches, chorea, occasional "fits, habitual truants, with slight brain defects"; adding that "these "cases could be picked out by a medical inspector, and they can be "taught in ordinary schools, in small class-rooms, under trained "teachers." It would appear that the choice between special class-rooms in connexion with ordinary schools, and special schools set apart for exceptional children, resolves itself into a question of local convenience. Of course regard must be had to the accessibility of the schools or classes from the pupils' homes, and it will probably be found advantageous to adopt the separate school system in large cities, the class system in smaller towns. It will be noticed in the accounts given of the experience both of the Norwegian and the German schools, that some cases of proved incapacity, as well as some whose home circumstances are specially unfavourable, have to be relegated to the institutions for imbeciles, or, as our American cousins prefer to call them, institutions for "feeble-minded children." From my own point of view, considering how much the lasting amelioration of weak-minded children depends upon care out of school, as well as upon instruction in school, I think the institutions will, in many cases, be more effective than the special classes. However, even in such cases, the classes will afford the opportunity of probation, and parents will overcome the reluctance naturally felt to send their children to such institutions when they find that even the special instruction is insufficient. The forthcoming experiment of the London School Board in providing special instruction for children disqualified from the curriculum of the ordinary school by reason of physical or mental defects will be watched with the utmost interest by educators throughout the country; and I trust it may prove so successful as to encourage imitation universally.

Antrag Erhebungen über psychopathisch minderwertige Kinder anzustellen.

VON

Dr. Ludwig Strümpell, Leipzig.
Dr. J. L. A. Koch, Würtemberg.
Dr. Emil Schmidt, Leipzig.
Dr. Ernst Hasse, Leipzig.

Die möglichen Erfolge der Erziehung und des Unterrichts eines Kindes sowohl in der Familie, als auch in den öffentlichen Erziehungs- und Unterrichtsanstalten, hängen vorzugsweise von der *Bildsamkeit* desselben ab.

Die Letztere ist wiederum nicht blos durch die psychische Beanlagung allein, sondern wesentlich auch durch die Gesundheit des Körpers im Ganzen und insbesondere durch die Normalität des Nervensystems und seiner Centralorgane bedingt.

Aus diesem Grunde sind sowohl von Seiten der Medicin, als auch der Pädagogik ernstliche Bestrebungen hervorgetreten, welche bezwecken, ein sicheres Erfahrungsmaterial zu gewinnen, wodurch beiden Wissenschaften ein bestimmtes Urtheil über den thatsächlichen Zustand der heranwachsenden Jugend in Betreff ihrer körperlichen und psychischen Normalität ermöglicht wird.

Auf der Grundlage dieser Kenntniss würde nicht blos die wissenschaftliche Ausbildung beider Doctrinen wesentlich gefördert werden, sondern es würden sich daraus auch für die Praxis im Schul- und Unterrichtswesen höchst nützliche Gesichtspunkte ergeben.

Alle diejenigen Zustände der Kinder, bei denen die geistige Entwickelung entweder durch angeborene oder erworbene, durch dauernde oder auch vorübergehende pathologische Einflüsse von seiten des Körpers, insbesondere der nervösen Centralorgane gestört oder theilweise aufgehoben ist, nennt man *psychopathische* Zustände. Der genannte Zweck ist einem grossen Theile nach am ehesten dadurch zu erreichen, dass die psychopathischen Zustände derjenigen Jugend ermittelt werden, welche zu einer bestimmten Zeit sowohl in den normalen öffentlichen Erziehungs- und Unterrichtsanstalten, als auch in staatlichen und privaten Schulen und Anstalten für zurückgebliebene, nervenkranke und verwahrloste Kinder, sowie im Elternhause ohne eine Anstalt zu besuchen, vorhanden ist.

Um die Beurtheilung des *Grades* der Minderwertigkeit nicht zu sehr in das Ermessen des Zählers (Beobachters) zu stellen, sondern dieses Urtheil dem Verarbeiter des Materials vorzubehalten, müssen sich solche Ermittelungen auf die *Gesammtheiten* der ortsanwesenden Kinder beziehen, auf die gesunden, die minderwertigen und die gebrechlichen, einschliesslich der blinden, taubstummen und eigentlich idiotischen (stärker schwachsinnigen und blödsinnigen) Kinder. Es ist dies schon erforderlich, um die minderwertigen in ihren anthropometrischen

Merkmalen als Ausnahmen gegenüber dem aus der Gesammtheit abgeleiteten Durchschnitt charakterisiren zu können und um bei der Untersuchung die Minderwertigen nicht im Voraus als solche bezeichnen und sie und die Ihrigen verletzen zu müssen.

Mit solchen Erhebungen wäre zunächst an kleineren Orten (Landorten, kleineren Städten) zu beginnen, und nur allmählich und in dem Maasse, wie das Interesse für die Sache sich verbreiten und Uebung und Fertigkeit beim Zählen erlangt würde, wären grössere Kreise in den Bereich der Erhebungen einzubeziehen. Auch dürfte es sich empfehlen, wenigstens anfänglich private Erhebungen zu veranstalten, da man mit solchen Erhebungen hinsichtlich psychiatrischer Fragen an einigen Orten schon besonders gute Erfahrungen gemacht hat.

Im Interesse dieser auch in socialer Hinsicht höchst wichtigen Angelegenheit stellen die Unterzeichneten den Antrag:

> Der VII. Congress für Demographie u. s. w. wolle eine aus einem mit der Psychiatrie vertrauten Arzte, einem erfahrenen Pädagogen und einem Statistiker bestehende *Commission* ernennen, deren Aufgabe es sei, mit der Ermittelung der psychopathischen Minderwertigkeiten der Jugend zunächst in kleinen Kreisen, einer Schule, einem Dorf, einer Stadt zu beginnen und dieselbe planmässig fortzusetzen und auszuführen. Auch wolle der Congress die eingesetzte Commission ermächtigen, sich durch Kooptation zu verstärken und für ihre Erhebungen, welche zunächst auf private Willfährigkeit gegründet werden sollen, wenn nöthig, behördliche Unterstützung nachzusuchen.

Um der Ausführung die nöthige Einheitlichkeit zu geben, erlauben sich die Antragsteller das beifolgende Erhebungsformular in Vorschlag zu bringen.

Sollte die zweite Abtheilung des Congresses für die normalen Kinder andere anthropometrische Merkmale feststellen, so bitten wir, diese an Stelle unserer Fragen VII. bis XVI. zu setzen.

Um Doppelarbeiten zu vermeiden, wird es sich jedenfalls empfehlen, die umständlichen psychopathischen Untersuchungen sogleich auch so einzurichten, dass sie für die Anthropometrie der, wenn auch kleinen, Gesammtheiten verwerthet werden können.

Anweisung zur Beobachtung der psychopathisch minderwertigen Jugend.—Es handelt sich bei dieser Beobachtung um Ermittelung derjenigen Individuen, welche zwar nicht geisteskrank, d. h. nicht idiotisch und nicht irrsinnig, welche aber *psychopathisch minderwertig* sind.

Solche (auf das Nöthigste sich beschränkenden) Erhebungen sollen zur Sicherung ihrer Genauigkeit und Zuverlässigkeit zunächst an einigen kleineren und mittelgrossen Orten und zwar unter Mitwirkung von speciell sachverständigen Aerzten, von Lehrern und anderen berufenen (sach- und lokalkundigen) Personen je durch einen Vertrauensmann angestellt werden.

Bei der Ausführung der Beobachtung kommen Zählblättchen zur Verwendung.

Zur näheren Orientirung werden folgende Erläuterungen gegeben:

I. Gezählt werden an einem bestimmten Zeitpunkt *alle* am Orte anwesenden Kinder im schulpflichtigen Alter, gleichgültig, ob sie eine Lehranstalt besuchen, oder nicht. Ausserdem *kann* die Erhebung sich auf diejenigen Kinder erstrecken, welche nach dem Orte zuständig sind (deren Eltern am Orte leben), die aber eine auswärtige Schule besuchen oder in einer auswärtigen Anstalt untergebracht sind. Es empfiehlt sich dies besonders dann, wenn damit die sämmtlichen einer Ehe angehörigen psychopathisch minderwertigen Kinder zusammengefasst werden können.

II. Die Namen der Gezählten werden nicht angegeben. Die Zählblättchen werden aber bei jeder Lehranstalt in fortlaufender Weise numerirt, und es wird sehr gewünscht, dass jeder Zählende für sich ein Verzeichniss der Nummern mit den zugehörigen Namen anlege, damit in Anstandsfällen später leicht Auskunft gegeben werden kann.

III. Auf jedes Zählblättchen wird nur ein Individuum aufgenommen. Der bei dem betreffenden Individuum vorhandene Zustand wird dick unterstrichen, das Nichtzutreffende durchstrichen.

Wo nöthig, sind auch beide Alternativfälle zu unterstreichen, z. B. bei Frage XXI. eventuell anatomisch *und* funktionell.

Kann eine Rubrik nicht mit Sicherheit ausgefüllt werden, so wird ein Fragezeichen beigesetzt.

IV. Unter dem Ausdruck *psychopathische Minderwertigkeiten* sind (nach Dr. J. L. A. Koch, Director der Königlich Württemberg'schen Staatsirrenanstalt Zwiefalten: Die Psychopathischen Minderwertigkeiten, Ravensburg bei O. Maier 1891) *zu verstehen* alle, sei es angeborenen, sei es erworbenen, den Menschen in seinem Personleben beeinflussenden psychischen Regelwidrigkeiten, welche auch in schlimmen Fällen doch keine Geisteskrankheiten darstellen, welche aber die damit beschwerten Personen auch im günstigsten Falle nicht als im Vollbesitze geistiger Normalität und Leistungsfähigkeit stehend erscheinen lassen.

V. Die angeborene psychopathische Minderwertigkeit giebt sich vielfach zu erkennen *körperlicherseits*:

A. Durch *Degenerationszeichen* (stigmata) im *engeren* Sinne. Es sind gewisse *anatomische* Verbildungen, die entweder schon von der Geburt an sichtbar sind oder später mit Nothwendigkeit hervortreten.

Dazu gehören:

1. Disproportionirtheit zwischen den *einzelnen Körpertheilen*, insbesondere zwischen *Schädel* und *Gesicht* und den einzelnen Abschnitten von *Schädel* und *Gesicht*.

   Es kann z. B. das Gesicht im Verhältniss zum Schädel zu gross oder zu klein sein oder die untere Partie des Gesichts ist im Verhältniss zur oberen auffällig reducirt. Oder zu kleiner Kopf, zu grosser Mund, übergrosse Hände und Füsse u. dgl.

2. *Asymmetrien* an *Schädel* und *Gesicht*, z. B. die eine Hälfte des Schädels oder des Gesichts ist kleiner, als die andere u. dgl.

3. *Misgestaltungen einzelner Körpertheile für sich*, z. B. *fliehende Stirn*, d. h. wo die Stirn von der Nasenwurzel ab nach hinten oben zurückweicht, keine richtige Wölbung und Masse hat.

   Ferner: *abgeplattetes Hinterhaupt, zu hoch gesprengter* oder zu *flacher harter Gaumen, Unregelmässigkeiten der Zahnreihen, unvollständige und misstaltete Ohren, monströse Ohrmuscheln, mangelhafte* oder *gegen die Wangen angewachsene Ohrläppchen, wulstige Lippen*, namentlich *wulstige Unterlippe, Schielen, ungleiche Färbung der Iris, Klumpfuss* u. A.

B. *Durch Degenerationszeichen im weiteren Sinne;* als solche sind aufzufassen allerlei mehr oder weniger andauernde *funktionelle Anomalien*. Sie treten bei Psychopathisch Minderwertigen zum Theil *schon sehr früh hervor*. Dazu gehören z. B. namentlich:

   Sensible Störungen, wie Kopfdruck und neuralgische Beschwerden;

   Motorische Störungen, wie Muskelzucken, namentlich im Gesicht; oder Muskelzittern; *gesteigerte Erregbarkeit des Herzens;* und

   Vasomotorische Störungen, die sich in Anfällen von *Herzklopfen, Pulsfrequenz*, Geneigtheit zum *Erröthen* aussprechen.

   Stärkere Anomalien sind:

   Neigung zum *Zusammenschrecken*, zum *Schwindel*, zu *Ohnmachten*, zu *Convulsionen* u. A.

VI. Die psychopathisch minderwertigen *Kinder* und *jungen Leute* werden gewöhnlich als *nervös*, als *psychisch belastet*, als *eigenartig* (phantastisch, extravagant, leutescheu u. s. w.), als *zurückgeblieben, schwach begabt, schwer zu unterrichtend*, als *sittlich verkommen* u. dgl. bezeichnet.—Es soll aber kein Individuum als *psychopathisch minderwertig* bezeichnet werden, bei dem die psychischen Regelwidrigkeiten nicht *pathologisch* (im medicinischen Sinne) sind.

VII. Wo bei den Erhebungen jeweils auch noch zwischen psychopathischer *Disposition*, psychopathischer *Belastung* und psychopathischer *Degeneration* unterschieden werden kann, ist es sehr erwünscht, wenn solches geschieht.—Die *Ursachen* der *erworbenen* psychopathischen Minderwertigkeiten sind am häufigsten geistige und gemüthliche Ueberanstrengungen verschiedener Art und körperliche Krankheiten, namentlich Krankheiten der Hirnhäute und des Hirns (Meningitiden, Epilepsie u. s. w.).—Besteht ein Zweifel darüber, ob ein Individuum an einer angeborenen oder einer erworbenen Psychopathie leidet, so wird es zu den angeborenen Psychopathischen gerechnet, aber ein Fragezeichen beigefügt.

VIII. Bei der unmittelbar auf die Heredität Bezug habenden Abtheilung des Zählblättchens wird gewünscht, dass jedes Fach einzeln ausgefüllt und ein verneinendes Ergebniss ebenso ausdrücklich konstatirt werde, wie ein bejahendes; mit anderen Worten, dass in jedem einzelnen Fache, wenn das betreffende Verhalten zweifellos ist, ein Ja oder ein Nein eingetragen werde. Enthält eines der Fächer weder Ja noch Nein, so ist das Fach *nicht* offen zu lassen, sondern mit einem Fragezeichen auszufüllen.

IX. Unter *Geisteskrankheit* ist sowohl *Irrsinn*, als auch *Idiotie* verstanden. Wenn nach dem Bestehen (oder Bestandenhaben) von psychopathischer Minderwertigkeit in der Ascendenz und bei den Geschwistern der zu Zählenden gefragt ist, so kommen da, was die *Erwachsenen* unter diesen Verwandten betrifft, (nach Koch) Zustände in Betracht nach deren hervorstechenden psychischen Merkmalen man die Betreffenden je nachdem als *zartbesaitete* Seelen, *weinerliche Gemüthsmenschen*, *Träumer* und *Phantasten*, *Menschenscheue*, *Mühselige*, *Gewissensmenschen*, *Empfindliche* und *Uebelnehmerische*, *Launenhafte*, *Exaltirte* und *Exzentrische*, *Gerechtigkeitsmenschen*, *Stadt-* und *Weltverbesserer*, *Eigensinnige* und *Rechthaberische*, *Hochmüthige*, *Taktlose*, *Spöttische*, *Eitle* und *Gecken*, *Bummler* und *Neuigkeitskrämer*, *Unruhige*, *Bösewichte*, *Schwachköpfe*, *Sonderlinge*, *Sammler* und *Erfinder*, *missratene* und *nicht missratene Genies* u. s. w. bezeichnen kann.—Aber alles dieses sind die Betreffenden auf der Grundlage *organisch-pathologischer* Schädigung.

Trunksucht, *Neigung zu Selbstmord* und *zu Verbrechen* deutet sehr häufig auf das Bestehen von *psychopathischer Minderwertigkeit* (oder auch von Geisteskrankheit) bei den Betreffenden hin. Doch wird aus mehreren Gründen nach diesen Dingen noch besonders gefragt.

X. Von somatischen Nervenkrankheiten kommen in Betracht *Epilepsien*, welche nicht oder noch nicht zu psychopathischer Minderwertigkeit (oder zu Geisteskrankheit) geführt haben, Zustände mit *häufigen Kopfschmerzen*, mit *Schwindel-* und

Ohnmachtsanfällen, habituelle Migräne, habituelle Neuralgien und dergleichen. *Hypochondrie* und *Hysterie* werden als psychopathische Minderwertigkeit (beziehungsweise als Geisteskrankheit) berücksichtigt.

Auf Bemerkungen darüber, ob die Momente, welche hereditäre Belastung herbeizuführen geeignet sind, jeweils schon *vor* der Geburt des betreffenden Individuums in seiner Ascendenz vorhanden waren, wird vorerst verzichtet.

XI. Bei Frage 9 ist die Schädellänge mit Tastenzirkel von der Stirnglatze (glabella) bis zu dem am weitesten davon stehenden Punkt am Hinterhaupt in der Medianebene des Schädels zu messen. Als Schädelbreite ist die grösste Querbreite aufzusuchen.

XII. Bei Frage 24 "wo untergebracht" bezeichne man die Lehr- oder Heil- oder Versorgungsanstalt genau nach ihrem Wesen, z. B. Anstalt für Schwachsinnige und Idioten, Schule für Schwachbegabte, Anstalt für Zurückgebliebene, Besserungsanstalt, Anstalt für Nervenkranke, Anstalt für Epileptische oder wie immer die betreffende Anstalt selbst sich bezeichnet. —Bei den in Lehranstalten anderer Orte und den in Specialanstalten untergebrachten Individuen oder bei Kindern, die im Elternhaus leben, ohne eine Lehranstalt zu besuchen, wird die Frage nach der Lehranstalt im Eingang des Zählblättchens offen gelassen.

XIII. Es empfiehlt sich, wenn auf einem Zählblättchen falsch eingetragen wurde und nicht ganz unzweifelhaft deutlich korrigiert werden kann, dasselbe zu zerreissen und ein neues auszufüllen.

Entwurf eines Erhebungsformulars für Untersuchung über psychopathische Minderwertigkeit der Kinder.

1. Land Kreis Gemeinde .
2. Lehranstalt Laufende No. (für diese Lehranstalt).
   (Bei No. 1 der betr. Anstalt ist anzugeben Gesammtzahl der Schüler darunter Kn. Md. .)
3. Des Untersuchten Geschlecht: männlich weiblich .
4. Alter Jahre Monate (geboren am 18).
5. Geburtsland Kreis Ort . .
6. Religion: evangelisch, katholisch, israelitisch, andersgläubig.
7. Grösse (ohne Fussbekleidung) Centimeter. Gewicht (unter Abrechnung der Kleidung) Kil. Gr.
8. Ernährungszustand.
9. Schädellänge Schädelbreite ob Schädel unnormal.
10. Farbe der Augen.
11. Farbe der Haare.
12. Farbe der Haut.

Befund der Untersuchung (ob normal, oder welche Anomalien).

13. Der Augen (bezw. des Gesichts).
14. Der Nase (bezw. des Geruches).
15. Des Mundes und Rachens.
16. Der Ohren (bezw. des Gehörs).
17. Liegt vor Epilepsie, Veitstanz, allgemeine körperliche Schwäche, oder ein anderes körperliches Leiden u. welches?
18. Finden sich somatische (anatomische-functionelle) Degenerationszeichen u. welche?
19. Andere Symptome für die Vermuthung der Minderwertigkeit. Wird demnach vermuthet?
20. *Angeborene* psychopathische Minderwertigkeit? (Disposition.—Belastung.—Degeneration.)
21. *Erworbene* psychopathische Minderwertigkeit? (Disposition.—Belastung.—Degeneration.)
22. Zeit des Beginnes des (erworbenen) Leidens?
23. Lebt das Kind im Elternhause (in der Familie)?
24. Oder ist es in einer Anstalt untergebracht u. in welcher?
25. Besucht das Kind eine Schule u. welche? (Ort, Name u. Art) u. welche Klasse?
26. Urtheil des Lehrers über des Kindes Fähigkeiten, Kenntnisse, Fortschritte u. Betragen?
27. Ehelich oder unehelich geboren.
28. Zahl der Geschwister, einschl. der Verstorbenen .

—	Es finden oder fanden sich bei des untersuchten Individuums						
	Vater.	des Vater's		Mutter.	der Mutter		Geschwister.
		Vater.	Mutter.		Vater.	Mutter.	
29. Beruf u. Stand - - -							
30. Wohlstandsgrad - - -							
31. Grad der Blutsverwandtschaft -							
32. Geisteskrankheit - - - -							
33. Psychopathische Minderwertigkeit							
34. Somatische Nervenkrankheit -							
35. Trunksucht - - - - -							
36. Selbstmord od. Selbstmordversuch							
37. Hang zu Vergehen od. Verbrechen							
38. Allgemeine Schwächlichkeit .							

39. Bemerkungen:

Ort u. Datum der Erhebung.

Unterschrift des Beobachters.

Kinder mit abnormer Kopfbildung.

VON

Prof. EDUARD RITTER VON HOFMANN, Wien.

Zu den *Kindern*, welche in Schule und Haus ihrer abnormen Körperbeschaffenheit wegen einer grösseren Beachtung und Schonung bedürfen, gehören auch die *mit abnormer Kopfbildung*, und zwar nicht bloss die Kinder mit hydrocephalischem, sondern auch die mit rachitischem und durch vorzeitige Nahtverwachsung verbildetem Schädel.

Ihrer Natur nach kommen solche Schädelbildungen gerade im Kindesalter relativ am häufigsten vor, finden sich daher auch bei Schulkindern nicht ungewöhnlich, was ziffermässig zu konstatiren wohl der Mühe werth wäre.

Solche Schädel sind ein auch für Laien erkennbares Merkmal einer abnormen oder gehemmten Hirnentwicklung und einer dadurch bedingten geringeren Leistungsfähigkeit und grösseren Labilität des Gehirns.

Die geringe psychische Leistungsfähigkeit hydrocephalischer Kinder ist bekannt, weniger aber die Thatsache, dass eine solche auch bei rachitischen und durch vorzeitige Synostose verbildeten Schädeln bestehen kann und häufig besteht. Es fehlen zwar in dieser Richtung systematische Untersuchungen; es lässt sich aber *a priori* aus der Natur der Abnormität erwarten, dass ebenso wie der ihm analoge Kretinismus auch der Rachitismus, noch mehr aber die vorzeitige Verwachsung der Schädelnähte, desto mehr die Leistungsfähigkeit des Gehirns herabsetzen müssen, je intensiver sich die durch die Knochenerkrankung gesetzte Wachsthumshemmung des Gehirns gestaltet.

Schon wegen dieser geistigen Insufficienz, welche mit solchen Deformitäten in den höheren Graden regelmässig verbunden ist, aber auch in den minder hohen verbunden sein kann, verdienen dieselben eine pädagogische Beachtung und gehören jedenfalls mit zu den Factoren, welche vom Lehrer, Schulaufseher und insbesondere vom Schularzte bei der Beurtheilung der Leistungsfähigkeit und der ganzen geistigen Persönlichkeit des einzelnen Kindes mit herangezogen werden müssen.

Eine noch höhere Bedeutung gewinnen solche Deformitäten durch die grössere psychische und physische Labilität des Gehirns, welche sie bedingen.

In psychischer Beziehung findet sich erhöhte Reizbarkeit, Geneigtheit zu pathologischen Verstimmungen, besonders in der Pubertätsperiode, sowie erhöhte Reaction gegen Affecte, insbesondere gegen Schreck. Auch eine grössere Inclination zu Geistesstörungen kann bestehen. Wird ja von vielen Psychiatern namentlich die Asymmetrie des Schädels einestheils als Zeichen hereditärer Degeneration, anderseits als ein zu Geistesstörungen prädisponirendes Moment angesehen. Auch dürfte es wohl kaum auf einem blossen Zufall beruhen, dass bei den von mir secirten jugendlichen Selbstmördern verhältnissmässig häufig Schädeldeformitäten der genannten Art gefunden wurden.

In somatischer Beziehung äussert sich die Labilität des Gehirns solcher Kinder durch Geneigtheit zu Convulsionen, Neurasthenie und Neurosen verschiedener Art, aber auch durch gesteigerte Empfindlichkeit gegen fieberhafte Zustände und gegen Traumen.

Schon ein leichtes catarrhalisches Fieber, das bekanntlich bei kleinen Kindern so häufig vorkommt, kann cerebrale Erscheinungen veranlassen, noch mehr aber Erkrankungen, welche, wie z. B. die Pneumonie oder die acuten Exantheme, in ihrem Beginne mit hohem Fieber einhergehen.

Ich habe wiederholt Kinder obducirt, welche unter meningitischen Erscheinungen acut erkrankt und rasch gestorben waren, während bei der Obduction keine Spur von Meningitis, sondern eine frische, in ihrer Ausdehnung mitunter geringe, Pneumonie oder ein acutes Exanthem im Ausbruchstadium gefunden wurde. In allen diesen Fällen fand sich aber eine rachitische oder synostotische Schädelstenose oder Hydrocephalus, welche offenbar der Grund waren, warum das Gehirn auf das durch eine andere Erkrankung bedingte Fieber so unverhältnissmässig reagirte, dass dadurch eine Meningitis vorgetäuscht wurde.

Mehrmals handelte es sich dabei um Fälle, in denen, weil der Erkrankung angeblich Züchtigungen in der Schule oder ähnliche Einwirkungen vorangegangen waren, an eine traumatische Meningitis gedacht und die gerichtliche Obduction eingeleitet worden war.*

Auch habe ich eine ansehnliche Zahl von Kindern obducirt, die unmittelbar nach unbedeutenden Gewalteinwirkungen auf den Kopf, z. B. Ohrfeigen, Ziehen bei den Haaren, von Hirnerscheinungen befallen wurden und kurz darnach gestorben sind, und wo sich bei der Obduction in der Regel herausstellte, dass die betreffende Gewalt nicht ihrer allgemeinen Natur nach, sondern nur wegen des Bestehens eines der erwähnten pathologischen Verhältnisse, somit, wie sich das österreichische Gesetz ausdrückt, wegen einer "eigenthümlichen Leibesbeschaffenheit" einen so schlimmen Ausgang genommen hatte.

Am begreiflichsten ist ein solches Vorkommniss beim Hydrocephalus da; besonders, wenn man die ganz plausiblen von *Duret*, *Gussenbauer* u. A. über das Wesen des als "Commotio cerebri" bezeichneten Symptomenkomplexes aufgestellten Theorien sich vor Augen hält, durch eine den Kopf erschütternde Gewalt desto leichter eine traumatische Reizung der Wandungen der Hirnkammern, namentlich der vierten wird zu Stande kommen können, je grösser die Flüssigkeitsmenge war, welche gerade in den Ventrikeln sich befand.

Aber auch bei rachitischer Schädelbildung, die sich überdies häufig mit Hydrocephalus verbindet, sowie bei vorzeitiger Nahtverwachsung sind derartige abnorme Reactionen wohl verständlich, da der Raumbeengung wegen Erschütterungen des Kopfes leichter auf das Gehirn sich fortpflanzen, und als solche sowohl als durch reactive Hyperämie

* Prof. Hofmann demonstrirt einen solchen Fall, respective das Schädeldach eines Knaben von 9 Jahren mit Verwachsung der Satura sagitalis und der linken Hälfte der Satura coronaria. Pneumonie.

ungleich leichter zu functionellen Störungen führen können als bei normalem Schädel respective Gehirn.*

Es sind demnach recht wichtige Eigenthümlichkeiten, welche Kindern mit abnormen Schädelbildungen zukommen, und ich glaube, dass Lehrer und jene, denen die Aufsicht in der Schule zusteht, auf diese Kinder besonders aufmerksam gemacht und ihnen eine besondere Beachtung und Schonung derselben empfohlen werden soll.

Es liegt dies sowohl im Interesse der betreffenden Kinder als der Lehrer selbst, da letztere durch Beachtung der erwähnten Verhältnisse sich am besten vor der unter allen Umständen höchst peinlichen Anklage schützen können, dass sie durch das Maass der erlaubten überschreitende Züchtigungen oder sonstige unzulässige Behandlung eine schwere Erkrankung oder gar den Tod des Schulkindes veranlasst hätten.

DISCUSSION.

Dr. Escherich (Graz) erinnert an die Beobachtung Soltmann's, wonach geistig abnorm veranlagte Kinder mit der linken Hand Spiegelschrift schreiben. Es würde dies ein sehr einfaches Mittel sein zur Erkennung abnormer geistiger Veranlagung. Nach untersuchungen, die durch meinen Assistenten Dr. Cahen in Graz gemacht wurden, ergaben, dass die Angabe Soltmann's richtig ist, dass aber auch zahlreiche als gesund zu bezeichnende Kinder in Spiegelschrift schreiben und zwar um so mehr je häufiger je jünger sie sind, Mädchen häufiger als Knaben. Mit zunehmendem Alter vermindert sich der Prozentsatz derselben rasch.

Prof. Guye (Amsterdam) said I have listened with great interest to the very able paper read by Dr. Warner in the first meeting of this Section, and to the remarks offered in the discussion by Dr. Shuttleworth, Dr. Fletcher Beach, Dr. Langdon Down, and others. I take the liberty to offer a few remarks on a question which is related to that about the care to be taken of the various classes of feeble-minded and imbecile children, and which are, in my opinion, doubly important if the work expressed by Dr. Warner and assented to by this whole Section, comes to be fulfilled, that is, that the State should take care that all feeble-minded children shall be provided for in special classes. It is not quite a new question to which I wish to draw the attention of the section. For a number of years various authors, besides myself, Rupprecht, Michel, Seiler, Hack, Elsberg, Schäffer, Ziem, Bresgen, and others engaged in the study and treatment of diseases of the nose, have published cases where disturbance in the cerebral functions were prominent. In 1887 I proposed the name of *aprosexia* for one of the principal symptoms of this disturbance, that is the inability to fix the attention on any more or less abstract subject. With the impairment of the attention goes feebleness

* Prof. Hofmann demonstrirt das Schädeldach eines 8jährigen Mädchen mit vollständiger Verwachsung der Pfeil- und Kranznaht. Der Tod war einige Stunden nach einem leichten Schlag mit der Hand auf den Kopf erfolgt, ohne dass sich weitere anatomische Veränderungen fanden.

of memory and tendency to headache. In some cases the organs of sight and hearing are affected consecutively, conjunctivis and hardness of hearing being the results. I will not now go into any details. I have done so in a paper read at the meeting of the British Medical Association in Leeds in 1889.* I have been very glad to see that not only has the name aprosexia been very generally adopted, but that my views have been confirmed by various authors belonging to different countries. Thus, in England, Dr. Hingston Fox† has published a paper On Nasal Catarrh and Aprosexia. Dr. William Hill‡ has found in the Earlswood Asylum for Idiots that nearly all children are mouth-breathers, night-snorers and the victims of nasal or pharyngeal obstruction. They are all aprosexic. In Germany Dr. Max Bresgen has sent an address to the Minister of Instruction, requesting that a regular medical supervision should take place in schools, especially with regard to the state of the upper respiratory organs of the school-children. I must add that he had done this before my first publications on the subject, in 1884, and that he sent a second address in 1887, in which he made use of my publication on aprosexia as an argument giving new strength to his previously expressed views and wishes. Dr. Kafemann§ of Danzig has published the result of his examination of 2,238 school-children between 6 and 14 years of age. He found nasal stenosis and insufficient nasal respiration is about one-tenth of the children, producing aprosexia in a great number of cases. In France Dr. Raulin‖ in a paper published in 1890 has expressed similar views, and has laid great stress on the necessity of regular medical inspection, not only of the schools, but also of the school-children especially with respect to the state of their nasal respiration. So we see that medical opinion, as far as it is expressed, is by way of agreeing about the principal sides of the question; but I am not aware that the men who have influence on the hygienic organisation and supervision of schools, and the teachers themselves generally, are sufficiently impressed with the importance of the question.

Will you allow me to give you two examples from my own practice of the last year, which will illustrate that importance. 1. I have seen a case nearly identical with the first case which drew my attention to the subject, and which I published some time ago. A child of parents in a very fair social status, aged about 7 years, was brought to me last year with enlarged tonsils, complete mouth-breathing and a decidedly stupid-looking face. The hearing was nearly normal, nevertheless the child, who had been to school a whole year, had not been able to learn more than the three first letters of the alphabet. I removed the tonsils and ordered an appropriate treatment against the nasal stenosis. A few weeks after the beginning of the treatment the child knew all the letters of the alphabet; he is getting on at school now like other children, which it is clear he could not have done in his former state, when he was not able to learn or recollect the letters of the alphabet. He would in that state have been declared a mentally feeble or even an imbecile child by any competent person not acquainted with the symptoms of aprosexia.

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* Brit. Med. Journal, Sept. 28th, 1889, and Journal of Laryngology, 1889, 12.

† Lancet, May 12th 1888.

‡ Brit. Med. Journ. Sept. 28th 1889.

§ Schuluntersuchungen mit Bezug auf Aprosexia, &c. Danzig, 1890.

‖ Rev. de Laryngol, 1890, No. 22.

2. The second case which I wish to record is that of a girl of 15 years, brought to me by her father on the 8th of April last. She had complained of habitual, nearly daily, headache for the last two years, had great difficulty in getting on at school, the lessons which she learned in the evening she had forgotten next morning. She had been a mouth-breather from her earliest infancy, which we can infer from the fact that she has had great difficulty in suckling, on account of her nasal respiration being deficient even at that age. The hearing was nearly normal; she could hear whispered words at 8 M. with the right and at 9 M. with the left ear. I removed part of the pharyngeal tonsil and directed the treatment against the nasal stenosis. One week after that, when she came to see me again, I was astonished at her bright looks; she had had no headache at all, and on my questioning her about the state of things at school, I heard that the teacher that same morning had given her a "5" for history. I asked what figure she had obtained formerly, 5 being the highest figure. The answer was that she had generally had a 0 throughout the whole year, only now and then a 1. On the 8th of May, when I saw her for the last time, she told me that she now learned her lessons very easily in the morning before school-time; and in every respect she could be considered as a normal child.

These two cases may stand as examples of an only too numerous class of children suffering from nasal aprosexia, and giving the impression of feeble-minded children, which they are not, and need not be, if adequately treated.

Finally, I wish to endorse the conclusions of Dr. Raulin of Marseilles, as expressed in the paper already alluded to.

1. No child should be taken into a school without a medical certificate showing it to be bodily fit for the mental exertion of intellectual training. 2. There ought to be medical school-inspectors, to whose task among others should belong the careful inspection of the upper air-passages of the school children. 3. Teachers ought to refer to the medical inspectors all children who lag behind in intellectual development, and who breathe through the mouth.

And I, for myself should like to add to these one more conclusion :— 4. As long as medical school-inspectors are wanting, teachers should be impressed with the importance of giving attention to the question of mouth-breathing, especially in children who are backward in intellectual development, and with their duty of warning the parents or guardians of such children to seek competent medical advice.

Dr. William Hill, (London), considered that Prof. Guye had filled in an important hiatus in this discussion. Backwardness and stupidity had been actively investigated from the medical and psychological point of view, but educationalists and physicians had neglected the surgical aspect of the question. He was able from personal observation to corroborate Prof. Guye's conclusions. Dr. Langdon Down had rightly remarked on the importance of an euphonious nomenclature in connexion with the delicate subject of backwardness, stupidity, and feeble-mindedness. The term "aprosexia" coined by Prof. Guye supplied a long-felt want, although its originator must not flatter himself that it had yet been generally adopted. It had been rightly pointed out that aprosexia or inability to prosecute a line of thought or work for long together was largely a symptom of nasal and pharyngeal obstructions. Operations for the relief of enlarged tonsils, adenoid growths in the nasopharynx and polypus often produced the most gratifying results in backward children,

He had been surprised that Dr. Warner in his otherwise admirable investigations had not been struck with the evil results of obstructions to nasal respiration, and that his writings contained no reference to the subject. Dr. Hill's own far more limited observations in hospital and private practice led him to regard the hygiene of the nose and throat as of the highest importance to teachers and pupils.

Dr. Kotelmann moved the following *Resolution*:—

"That this Congress do appoint a commission consisting of three persons severally conversant with mental diseases, education, and statistics, whose duty it shall be to inquire into mental feebleness in children, beginning in small districts, and to continue and carry out the same according to a fixed plan. The Congress shall empower the commissioners to add to their number, and to appeal to recognised authorities for assistance if necessary."

Mr. J. P. Richards seconded the resolution.

Dr. Warner moved, and Dr. Fletcher Beach seconded, the following *Amendment*:—

"That this Congress do appoint a commission consisting of persons severally conversant in—1. The examination of the physical condition of children. 2. Mental conditions and diseases. 3. Education and methods of dealing with children. 4. Statistical compilation of facts—whose duty it shall be to inquire into the condition of children in schools and elsewhere, and to carry out the same upon a fixed plan. This Congress empowers the commission to add to their number, and appeal to recognised authorities and sources for assistance if necessary."

The Amendment was *carried*.

The Education of the Blind.

BY

F. J. Campbell, LL.D., Principal of the Royal Normal College for the Blind.

The scope of my paper prohibits even a brief account of the pioneers who have laboured in the cause of the blind, or a historical statement of the rise and progress of educational movements in different countries. My object is to show the present condition of the blind, particularly in this country, and briefly to indicate what should be done for the young blind in order to make them self-supporting.

I am unable to give detailed statistics from the Census returns of 1891, but for our purpose, the accumulated information derived from the Census returns between 1851 and 1881 will be sufficient. The proportion of the blind to the whole population has decreased since 1851, in which year a special account of the blind was first taken, but the decrease noted in the Census of 1881 was greater than in the previous decades. In 1881, the total number of blind in the United

Kingdom was 32,296. In England there was one blind person in every 1,138; in Scotland one in every 1,182; in Ireland one in every 847. In most countries there are more males than females who are blind. Ireland, Scandinavia, and Finland are striking exceptions; in Ireland there are 1,141 male blind per million males in population, and 1,219 female blind per million females in population; in Norway 1,313 males, 1,411 females, per million; in Finland 1,514 males, 2,938 females, per million. Speaking generally of countries in temperate regions of the globe, there are about one thousand blind persons to each million of the population. In 1881, in England and Wales, there were 1,710 blind children between the ages of 5 and 15. As the popular conception of the term "blindness" is total blindness, many with defective sight are not included in the Census returns. For educational purposes and practical business training, those who cannot be taught as seeing children must be included with the blind given in the Census, and will probably double the number requiring special training.

The large majority of the blind are found among the poor, and the cost of their education must either be drawn from charitable sources, or provided by the State. Continental Governments, the United States, and most of the English Colonies make provision for the education and training of their blind children. They endeavour by increased appropriations to place them as nearly as possible on an equal footing with the seeing. In Great Britain this work has been left mainly to charity; within a few years several School Boards* have taken up the elementary education of blind children, and in 1890 an Act was passed for the elementary education of blind children in Scotland, which, though wholly inadequate, is a move in the right direction. The generous efforts that have been made to alleviate the condition of the blind in this country have aimed, too often, at temporary relief and comfort, rather than practical measures for helping the blind to help themselves. Benevolent ladies and gentlemen in all parts of the country have devoted time and money to the cause, but a large majority of the blind, not only those who lost their sight in after-life, but those who have been blind from childhood, are still to be found among the helpless classes. When I came to London in 1871, I found, out of the 3,150 blind in London, 2,261 were dependent on charitable relief.

The Royal Commission, after four years of indefatigable labour, published its Report in 1889. Their extensive inquiry, to ascertain what proportion of the blind followed the trade taught them in institutions, furnished the following result: "Out of 1,267 blind men who "had learnt trades in various institutions in the United Kingdom only "734, or 58 per cent. proved, according to their own account, to be "following the trade learnt at those institutions. Of these 1,267 men, "about 15 per cent. were earning under 5*s.* per week, about 25 per "cent. were earning between 5*s.* and 10*s.* per week, and about 11 per "cent. were earning above 15*s.* per week. But the 42 per cent. who

* The movement originated in Glasgow.

" had found themselves compelled to seek other means of livelihood, " were earning far smaller wages in the aggregate than the 58 per cent. " who were still following the trades taught them at the institutions.

" Assuming that these statistics hold true of the blind at large, it " must be admitted that the fact that 42 per cent. of those trained in " institutions find themselves unable to continue to practice the trade " taught to them, while about 34 per cent. of the remainder do work, " but earn less than 5*s*. per week, indicates either a great deal of " indifferent teaching, or a want of proper facilities for working and " disposing of their work. Continuing this inquiry, the Commission " issued letters to a large number of blind persons throughout the " United Kingdom, to which they received 5,848 replies. Of the total " number no less than 4,605 declare their inability to maintain them- " selves without charitable assistance, while only 959 state that they can " so maintain themselves; 3,282 state that they earn nothing at all."

The Commission, quoting from Dr. Armitage, states: " In 1866 " it was found that the blind visited in connexion with the Indigent " Blind Visiting Society, whether trained in institutions or untrained, " had scarcely anything to do; that they were to a very great extent " idle mendicants, or depending on charitable relief in some form, " either from the guardians or from private societies or individuals. " In the case of musicians only one in 200, or ½ per cent. of all the " pupils trained in institutions, seemed to be able to support themselves, " while in Paris the education of the blind as musicians was infinitely " superior to anything that we then had in England, and 30 per cent. " were able fully to support themselves by the profession of music." In Boston, U.S.A., a much higher per-centage of success was obtained by professional musicians.* This sad state of things is due, in part, to the failure to recognise that the blind must have an education and training equal to those of the seeing who follow the same avocations. Much time and effort are lost for want of systematic action; there is no uniform plan of training. Good and earnest people work with indefatigable zeal upon methods which have proved worthless. The benevolent enter upon the work for the blind because their sympathies have been excited by the calamity of blindness; but they are not prepared to apply the same practical business rules of life to a number of blind children that they would to the same number of seeing children. Of course, they wish to prepare them for self-maintenance, but the prevailing idea is to make them happy and comfortable for the moment. The young blind, and even a majority of those in early manhood, can be made active and useful members of the community by suitable training; and it is clearly the duty of society to give the blind such educational privileges and business training as will enable them to earn their own support. Without any regard to humanitarian considerations, it is cheaper to educate than to pauperise.

* To improve the musical education of the blind in this country, the Royal Normal College and Academy of Music was established at Norwood in 1872. Of the pupils who have been trained in music, between 80 and 90 per cent. are self-supporting, and many of them earn handsome incomes.

In the public mind, blindness has been so long and closely associated with dependence and pauperism, that schools for the blind, even the most progressive, have been regarded hitherto as asylums rather than educational establishments. The fact of being classed among dependents and considered subjects of special charity is not only a mortification but a serious disadvantage; it leads to the workhouse. A sad mistake in the training of the blind is the lack of an earnest effort to improve their social condition. Whenever pupils in institutions are treated, and habitually spoken of, as poor, indigent, blind children, a feeling of semi-pauperism is fostered, and when the blind leave such institutions they become paupers in reality. In most countries free education has been provided for seeing children, but when instruction is given to the blind, it is still considered a charity. In the United States free education is regarded as the corner-stone of the Republic; the public school system provides a good education alike for the rich and poor, the seeing and the blind. But even in America the schools for the seeing are placed under the management of State Boards of Education, while corresponding schools for the blind, in common with asylums for the imbecile and insane, with workhouses and reformatories, are placed under Boards of State Charities. I rejoice that a more enlightened public opinion is working an important change, and already a few of the States have transferred the management of the schools for the blind from the Board of Charities to the Board of Education.

A practical system of education which has for its object to make the blind independent and self-sustaining must be based upon a comprehensive course of physical development. As a class the blind have much less vitality than the seeing, and this lack of physical power leads to indolence, timidity, and discouragement. The blind must be roused from their willingness to depend upon others, and made to believe in the possibility of independence and success. It is the lack of energy and invincible determination, not the want of sight, that has caused so many failures among the blind. In my long experience with the blind, both of Great Britain and America, I have found nothing that will rouse the indolent, and encourage the timid, but physical training. Some of the most successful pupils that ever left the Royal Normal College came to us idle and indolent boys and girls without any fixed purpose; the struggle was long and sharp, but they are to-day living examples of the principles we are advocating.

A blind man who has received mechanical training, general education, or even musical instruction, without physical development, is like an engine provided with everything necessary, except motive power. Even a well-ordered gymnasium and enthusiastic teachers are not sufficient; ample playgrounds, skilfully arranged and adapted to the requirements of the blind are essential—swimming, rowing, skating, and cycling should be included. Our daily gymnastic classes are as regular as our school or music classes; but class training, though absolutely essential, will never develop that spontaneous love of play observable among seeing boys and girls. Each of the five schools into which the college is divided has a separate playground with specially

adapted walks, rocking boats, rob-roys, tilts, swings, &c., so arranged as to be distinct and yet form a harmonious whole.

Under normal conditions it is desirable that young children should remain under home influences; blind children form an exception to this rule in a large majority of cases. Parents find it easier to attend to their wants and requirements than to teach them how to do for themselves. Blind children are indulged and over-praised; they are told that all they do is wonderful, and yet many of these prodigies can neither feed nor dress themselves. Through the want of active employment, either of work or play, they become idle and helpless. Poverty is a hard taskmaster; the over-worked mother is grateful if the blind child will sit still in a corner and thus keep out of danger. As they are not taught to work, they do not learn to appreciate the value of time, and in after-years this is one of the most difficult lessons to inculcate. Having drifted through childhood, they are content to drift through life.

In the future educational system for the blind, we hope to see children of from four or five to seven years of age carefully and systematically trained in kindergarten, modelling, and calisthenics, with elementary instruction in reading, writing, and numbers. The important habits of punctuality, regularity, and precision should be cultivated. A lesson, however short and easy, should be recognised and respected as a lesson. Thus the principle of work will be established, and the plays and games become all the more enjoyable. Between seven and ten years of age, the child of average ability, who has had the previous kindergarten training, ought to accomplish all the work of the first three standards of the Code. It should then be transferred to a good special preparatory school, similar to the preparatory school of the Royal Normal College. The course should include reading, writing, arithmetic, geography, English grammar and composition, English history, and object lessons, with thorough and systematic instruction on the pianoforte, in harmony, and singing. There should be a technical shop supplied with work-benches, sets of tools, and suitable materials. Technical training, or the proper use of tools, should form an important part in the early education of blind children. All the children should have a thorough course in Anglo-American Slöjd, which they should pursue step by step as methodically as their school studies. This course awakens the perceptive faculties, gives activity to the body, and prepares the hands and fingers for pianoforte playing, pianoforte tuning, or handicraft. If the blind child has no gifts for literary and musical studies, or pianoforte tuning, if he has early technical training, he will make a more skilful mechanic and a more successful bread winner. Blind children should be taught to run, play, and enjoy themselves in games and sports like seeing children. In the Normal College the young children are taught roller-skating, rowing, swimming, military drill, free gymnastics, especially Ling's, the use of Sargeant's developing apparatus, &c. They also have lessons in deportment, the object of which is to remove their stiffness and awkwardness, to cultivate graceful movements, and to make them as much as possible like seeing persons.

The aim of the teachers is to inspire a love of learning, to form correct habits of study, and to cultivate a taste for reading, which shall lead the pupils in after years to make good use of the valuable and ever-increasing library of embossed books. Above all, inspire them with a belief that God has placed them in the world to do good and useful work, and that He will require an account of the talents entrusted to them, be they few or many.

After a three or four years' course in the preparatory school, an intelligent opinion can be formed in regard to the future career of the pupils. They will fall naturally into the following categories:—*a*. A certain number will succeed better in handicraft than in any other calling, and should be drafted into a suitable mechanical school. *b*. A few will have special gifts for general business, and should be educated accordingly. *c*. A few will have the ability and ambition to prepare for the university, and the special college should afford them the most thorough preparation for the University examinations. *d*. Some will have the necessary talent, combined with the requisite character and industry to succeed in the musical profession; in addition to a liberal education, these should have musical instruction fully equal to that given to the seeing, in the best schools of music. *e*. Some may achieve excellent success as pianoforte tuners, and in the pianoforte tuning school strict business habits should be cultivated, and the same attention to work required as is demanded of seeing workmen in well-regulated pianoforte factories.

Wherever these pupils are sent, their future success will depend not no much upon *what* they are taught as *how* they are taught. Educators of the blind must recognise not only the want of one of the five senses, but all the physical defects and mental peculiarities which naturally arise from blindness. Until these fundamental difficulties have been met and overcome, it will be impossible to give the special training necessary to prepare the blind for useful and active independence.

Although it is impossible to deal fully with handicrafts and professions, I must say a word in regard to music. Music, when properly taught, is the most remunerative profession for the blind, and yet in all countries many who have tried to earn a livelihood by music have failed. Their failure is due to the following reasons:—1. In the selection of pupils for the profession, the musical ear rather than the mental capacity was considered. 2. The physical and intellectual powers of the musical students were not developed. 3. The musical instruction and practice was insufficient both in quantity and quality. 4. The opportunity of hearing music in its highest forms was not afforded them. 5. They were not trained in the art of teaching, especially in the best method of giving instruction to seeing children. To become successful in the profession, it is necessary for the blind to have opportunities of instruction, practice, study, and hearing music equal to the seeing, with whom they will have to compete in the open market. A National College of Music for the Blind, in any country, should afford the pupils opportunities fully equal to those enjoyed by the seeing in the best conservatories of music in that country. In all branches

of the art the services of the very best professors should be secured. If the blind musician is to rise above mediocrity, systematic musical instruction in childhood is indispensable, and good instruction will avail very little unless the practice is under constant and judicious supervision. The pupils should constantly hear the best performances of high class music. The Royal Normal College was located in Norwood that its pupils might profit by the great musical advantages presented in the varied programmes of high class music performed in the Crystal Palace. In the rehearsals and concerts the students have opportunities for becoming familiar with the standard works of all the great masters, and of hearing performances by distinguished artists from all parts of the world.

Institutions for the blind, even if their means are limited, ought to have at least good *elementary* musical instruction. In the first instance this may not produce so much effect on the public as choruses which have merely been learned by ear. But in the end such a course would promote the truest interests of the blind, and ensure a more liberal support. It is far better for a blind man to be a *good mechanic* than a *poor musician*. Bad musical training in childhood unfits him for both; he will not be happy afterwards to work at a trade, and his early training will make it almost impossible for him ever to attain anything creditable in the musical profession. It is sometimes urged that it is extravagant to employ the best teachers for poor blind children. But it is more extravagant to spend money in a way that *unfits*, rather than *fits* them for useful independence. *A practical education is a blind man's capital.*

Although good teaching is indispensable, no amount of teaching, even of the best, can take the place of regular, intelligent study and practice. It is commonly supposed that the blind are indefatigable in their efforts to learn, especially music. After many years' experience, however, I am convinced that it requires more effort to obtain thorough *systematic* work from the blind than from seeing persons. Teachers of the blind not only require patience, tact, and ability, but they need a large reserve of enthusiasm to arouse and call into activity the dormant faculties of their pupils.

We must not only educate and train the blind, but also give them effectual assistance in obtaining employment. The majority of the blind, when they leave school, have neither influential friends nor money. The school, with its distinguished patronage, should speak with no uncertain sound, the students should be so trained as to deserve strong endorsement, and those who are acquainted with their character, industry, and qualifications, should take an active part in launching them in the world. All who are interested in this subject should study the systems which are now in operation in France, Saxony, and Denmark. I recommend for perusal the able papers read by M. de la Sizeranne, of Paris, and the late T. R. Armitage, Esq., M.D., at the Congress of the Blind and their friends, held at Norwood in 1890.

More than thirty years ago, during my connexion with the Perkins Institute for the Blind, in Boston, I found the professional

pupils were allowed to shift for themselves, and the great majority of these failed for the want of a little help in starting. An organised plan of practical help was introduced, and within a few years the per-centage of success among this class of students rose from about 10 per cent. to 70 or 75 per cent. When the Royal Normal College was established in 1872, two of its fundamental principles were the physical training and development of the blind, and effectual help in starting business. As a practical result, the old pupils of the college during 1890 earned about 16,000*l.*

During recent years there has been a sharp controversy upon the question of school boards, versus special schools for the blind. Many friends of the blind urge that blind children should receive their entire elementary education in ordinary schools with the seeing, whilst others, with much tenacity, claim that the work can only be done properly in special schools. I am a strong advocate of special schools, but I gratefully recognise the valuable services school boards have rendered to the cause of the blind. I believe it is a mistake to keep the children in board schools until they have passed through all the standards; it is then too late for them to begin the special training for the calling or profession by which they hope to earn a livelihood. The London School Board has adopted, as far as possible, a liberal policy, and their plan cannot be too highly commended. They have not stopped to consider the credit of passing this or that blind child through the 6th, 5th, or even the 4th standard. Their earnest inquiry has been, "What "will best promote the future welfare of our blind children?" The instruction of the blind is managed by a sub-committee, who are familiar with the details of the work. They have an energetic superintendent, who seeks out the blind children. At first they are taught in convenient centres by trained blind teachers. As soon as the children have received sufficient special instruction to enable them to work in the ordinary classes, the superintendent places them in schools near their homes, interests the head master or mistress in their welfare, and secures for them a fair share of attention. In order to keep the blind children well abreast of their work, they continue to attend the special classes at the centres two or three times a week, so that during the whole course they have a certain amount of instruction from trained teachers of the blind. The visitors assist the superintendent in finding the blind children and enforcing their regular attendance. The members of the board, superintendent, head-masters, and special teachers interest themselves in sending the children at a comparatively early age to special schools. They are encouraged to work for scholarships, and when, owing to poverty, the children are unable to enter the special school which is best adapted to their requirements, the members of the board and managers give personal aid.

The British Government has been slow to recognise its duty and privilege in the beneficent work of educating and training its blind children; but I am confident that the nation will not be satisfied until we have a complete system, not only of elementary education, but an after course of training which will so prepare all the young blind of

average ability that when they arrive at a suitable age for business, they will become producers, and not, as hitherto, sink into semi-pauperism.

I suggest the following outline as a suitable basis for a national system: *a*. School boards for the training of young blind children from four or five to about ten years of age. There will be a certain number of young blind children who from neglect, want of food, and other causes, are feeble in body and mind; such children are a great burden on any class or school, and they require special treatment and instruction. School boards throughout the country should unite, and have one special school in the most healthful locality for such children. *b*. Special preparatory schools, either under the exclusive control of school boards, or carried on by the cordial co-operation of school boards with existing special schools. *c*. At 13 or 14 years of age the preparatory course will be completed, and the pupils should be drafted according to ability and future requirements, either to trade schools, or special colleges,* where they will be prepared for the university or receive a good general education combined with high-class musical training; in connexion with the latter there should be a pianoforte tuning school.

When Government adopts a comprehensive plan for the education and training of the blind, we shall have wise, special inspection for all schools, from the lowest to the highest. The present chaos with all its petty jealousies will pass away, for the special schools will be graded from a national point of view, and each in its particular province will become an important link in the system. The blind child from the preparatory grade will be sent to the school best adapted to his gifts and requirements; the need of the child will be considered rather than this or that school.

But even when Government has undertaken and accomplished this beneficent work, much will remain to be done which must be undertaken by a National Co-operative Society composed of all existing charitable agencies for the blind. The blind, whether educated for the church, trained as teachers, musicians, pianoforte tuners, or for any other trade or occupation, require assistance at the outset. They need help in finding suitable employments, recommendations for establishing a connexion, pecuniary assistance in providing outfits of books, tools, instruments, &c., help in the selection and purchase of the best materials at the lowest wholesale rates, in the sale of their manufactured goods in the best markets, and if overtaken by reverses, judicious and timely help towards a fresh start. This will furnish a grand field of labour for all branches of the National Society. The sick and aged will also be moved to the sunny side of the hill, and the blind beggar will disappear from our streets and highways. The cry which went up from the beggar's post at the gates of Jericho more than 1,800 years ago still vibrates upon the ears, and moves the hearts of men. Charities have been

* A well devised system of scholarships should be established, open to both sexes, and so arranged as to awaken the ambition of the blind throughout the country.

created, asylums, homes, and schools have been established, but the blind as a class are still floating helplessly down the stream of pauperism. Tens, even hundreds, of thousands of pounds are obtained for technical schools and colleges of music! Scholarships are multiplied even for the wealthy who have sight! All honour to those who are doing so much for the cause of education. Shall less be done for the blind? Shall we not lift up the weak hands and strengthen the feeble knees? The blind plead for a thorough, comprehensive education, which will give them strong bodies, well-disciplined minds, and courageous souls. Then, and not till then, will the blind, as a class, become productive members of society. Therefore I ask you to pass the following resolution:—

"That the time has arrived when the Blind should have a well-graded, practical, comprehensive course of instruction. That the training of the Blind should not be conducted on a charitable basis, but should form part of a National system of education."

Within the last hundred years many systems of reading and writing have been devised, in which books have been embossed. The multiplicity of systems has greatly increased the cost of production, and much restricted the supply of embossed literature at the disposal of the blind. One sample will be sufficient to illustrate the results of the want of co-operation. The bible has been printed in at least seven different systems for the English-speaking blind; consequently, while the seeing can have a copy of the bible for a few pence, a corresponding copy for the blind, will cost as many pounds. If all the bibles used by the English-speaking blind were in one type and produced by one press, an enormous reduction in cost would be effected. As the number and influence of intelligent blind persons is rapidly increasing, we confidently anticipate that the principle of co-operation will effect important reforms in the affairs of the blind. Already many embossed systems are becoming obsolete. During the past 20 years, the main controversy has turned upon the question of "dots" versus "lines." If this question could be settled by the blind who have to use the books, they, by a large majority, would choose dots instead of lines. Dots can be read and written with great facility by the blind of all ages. The blind are even able to prepare the stereotype plates for embossing their own books. Unfortunately we have two systems of point writing; the Braille and New York point. In 1874, and again in 1878, Dr. Armitage, on behalf of the British and Foreign Blind Association, proposed to the Convention of American Educators of the Blind the appointment of an international committee, composed of an equal number of American and English members, to whom the whole subject should be referred, on condition that both parties would agree to accept the decision of the international committee, and thus have only one dotted type for the English-speaking world. Unfortunately, the proposition was not entertained.

The British and Foreign Blind Association, under the leadership of the late Dr. Armitage, its inspired founder, devoted much time to the careful investigation of the complicated subject of types. As Dr. Armitage during the last twenty-five years of his life devoted his entire time

and fortune to the interests of the blind, I give the following in his own words:—

"We have now to consider the systems in which the characters are formed by various arrangements of dots. Of these, the most important is that invented by M. Louis Braille, a blind pupil of the Institution des Jeunes Aveugles, in Paris. This was introduced in 1829, and has now became the only method used in France, both for printing and writing. It is almost exclusively used in every school for the blind in Europe, British North America, Mexico, Brazil, Australia, Egypt, and in several institutions of the United States. It has been recommended for adoption by every European congress of educators of the blind since 1878.

Its signs are arbitrary, and consist of varying combinations of six points, placed in an oblong, of which the vertical side contains three and the horizontal two points. There are 62 possible combinations of these six points, so that, after the requirements of the English alphabet have been supplied, there remain a sufficient number of signs for punctuation, contractions, &c.

For writing, a frame is used consisting of a metal bed, marked by groups of little pits, each group consisting of six. These are arranged in two parallel lines, and a guide is hinged on this bed in such a way, that when the two are locked, oblong holes in the guide correspond exactly to the pits in the bed. The paper is introduced between the guide and the bed. The instrument for writing is a blunt awl, which carries a little cap of paper before it into the pits of the bed, thereby producing a series of pits in the paper. When the paper is taken out and turned over, little prominences are felt corresponding to the pits on the other side. When the first two lines have been written, the guide and bed travel as one piece down the board, which is so arranged as to give the right distance between the lines. Each line is separated by a wide interval from the next, which greatly facilitates reading. When the first page has been written, the paper is reversed, and the lines of the second page are written in the intervals between those of the first; a simple mechanical contrivance enables a blind person to do this with ease and certainty. This interlined writing not only makes the writing far more legible than that produced in the original French frame, but also effects a saving of space amounting to about 20 per cent.

"The group of six dots, which is the largest number of points that any letter can consist of, is divided into upper, middle, and lower pairs. The first 10 letters, from "a" to "j," exhaust all possible combinations of the upper and middle points. The next 10, from "k" to "t," are formed from the first by adding a lower back point each. Thus "a" becomes "k," "b" becomes "l," &c. The third row is similarly formed by adding two lower points. Thus "a" becomes "u," "b" becomes "v," &c. Reading is much facilitated by the use of a few simple and well-chosen contractions, as words being rendered shorter, the finger has less space to traverse.

"A modification of the Braille system was suggested by the late Dr. Russ, of New York, and it has been ably and strenuously advocated

by Mr. Wait, the superintendent of the Institution of the Blind in that city. The New York frame is so constructed as to allow letters to be formed of one or two points vertically, and of one, two, three, four, or more points horizontally. This is attained by having four-sided openings in the guide, at each corner of which a point can be made on the paper, these openings being separated from each other by intervals equal to the horizontal distance between the points, so that letters whose length is one point horizontally occupy half a cell, those of more points may occupy a whole cell, or two or three contiguous cells. The intervals between letters are obtained by omitting one point, and between words by omitting two or more points. Each letter, therefore, occupies no more space than is absolutely required for its formation.

"The result of the investigation, which terminated in the final decision in favour of the Braille system, may be briefly summed up as follows:—

"1. The gain in space of New York over Braille is said, theoretically, to be 30 per cent. Practically, this was found to be somewhat over-estimated. This gain in space is the principal advantage, though there seems also to be a slight gain in rapidity of writing. There are, however, some serious disadvantages to compensate for this gain in space.

"The New York system does not lend itself so well to interlining as the Braille, in consequence of the difficulty in distinguishing the characters which are composed entirely of upper or entirely of lower points.

"In distinguishing such characters from each other the reading finger is guided, to a considerable extent, by the interval which occurs between the upper or lower points, as the case may be, and the next line, and, as this is not possible with wide lines, it follows that interlining is not well suited to the New York character; and if we compare the interlined Braille with the close-lined New York, it will be found that the gain in space of the New York has disappeared, while the Braille is far more legible.

"2. The New York system is poorer in signs than the Braille, unless characters four points in length are used, and these are too long to be covered at once by the finger, which is inconvenient; hence, probably, the omission of many punctuation signs in the New York books, which produces inaccuracy and ambiguity.

"3. The correction of written or printed matter is very much more difficult in the New York than in the Braille system—a point of very great practical importance.

"4. As the letters in Braille are formed from each other by a simple rule, this system is more easily learnt than the New York, where there is no such aid to memory. This is of very little importance in schools where children are obliged to learn; but becomes of consequence when adults not in insti-

tutions are learning, as they readily become discouraged unless the first steps are made easy to them.

"5. As the different etters occur with varying frequency in different languages, it follows that if the New York system were generally adopted, each language would have a different alphabet, and the difficulty of reading foreign languages would thereby be greatly increased.

"6. The Braille system is too firmly rooted in Europe ever to be changed, and it would be a great calamity to the blind to have two point systems, unless the new were greatly superior to the old. This objection applies with still greater force to the musical notation, which ought to be as universal among the blind as it is among the seeing. Great numbers of valuable musical works have already been published in Paris, London, Copenhagen, and elsewhere. These would be illegible by, and useless to, the pupils of an institution using the New York system for musical notation, the adoption of which could only be excused by great superiority, and it is by no means proved that the New York musical notation is even as good as the Braille."

All who are acquainted with the two systems will probably agree that the New York interval gives great advantages over the Braille interval. Unfortunately Dr. Russ sacrificed these advantages by reducing the depth of the letters from three to two points. At the American Convention in 1874, and again in 1878, I strongly urged that we should construct an alphabet with the New York interval while we retained three points in depth. By this arrangement we should have retained the best features of both systems. By combining the New York interval with the Braille depth of three points we greatly increase the number of possible characters without increasing the length beyond three points. More than 50 per cent. of the English alphabet is represented by the letters a, e, i, n, o, s, and t. By the plan I suggested, these seven letters could be represented by characters only one point in length, and the effect is obvious. Many natural contractions would be available, for instance "in," "on," "oo," "os," "ss," and many other combinations of letters could be written without interval, effecting a great saving of space, and at the same time improving the legibility. We should have a very simple alphabet containing at least 25 per cent. less dots than the New York, consequently the labour of writing would be much less, and at the same time the type would be more readable; the musical notation would be even more improved than the literary system. But the evils arising from the multiplicity of systems has deterred me from urging this plan. In my opinion, a new system ought not to be introduced, unless it commands the support of a large majority of the intelligent blind and of their friends and educators.

The Physical, Manual, and Technical Education of Deaf Mutes.

BY

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In the remarks which I am invited to address to you, I propose to confine myself entirely to such points as bear any relation to the instruction given to deaf mutes by the School Board for London.

Shortly after the Board was fairly established, viz., in September 1874, it set apart a class-room in Wilmot Street, into which five children were admitted; in January 1875, another class was organised in Winchester Street; in October 1875, a third was opened in Marlborough Street temporarily, and transferred in June 1876 to Victory Place, at which time another centre was established in Bell Street.

In these schools, and down to June 1877, deaf teachers were employed to educate only under the sign and manual system. Dr. Stainer, the Superintendent, was the sole instructor of such few as he thought capable of learning orally; but at this date the Board employed a hearing assistant to aid him in this further accomplishment.

During the period between this and September 1881, no new deaf teachers were engaged in the place of those who resigned their employment under the Board, and gradually their places were occupied by hearing teachers, who, under general instruction from the Board, were required to teach only by the oral method, and of whom very few were acquainted with the sign and manual system.

All the educational work of the Board is carried out in *day* classes. The attendance of children under the Education Act of 1870 is theoretically compulsory, and extends to all children between the ages of 5 and 13; blind, deaf, crippled, &c., are included; in practice, however, the regulations have failed in a most disappointing degree.

In London the magistrates have generally shown great sympathy with the parents; those of the latter who are really anxious for the welfare of their children, have given the officers of the Board very little trouble, but have incited the children themselves to make the most of the opportunities given to them. The thriftless, poorly educated members of the population, on the other hand, constantly require the presence at home of their children to run about little jobs which they might easily execute themselves, if they possessed any idea of order or method; to run on errands for them, or for somebody who would pay a small pittance, utterly forgetful that in consequence of this little present convenience they are throwing away immense advantages in the future.

This feeling on the part of magistrates of kindness and sympathy, really very ill-founded, is extended largely towards any afflicted child, I believe throughout, very much from ignorance on all sides. Parents will rarely acknowledge, even to themselves, the existence of any defect in their child, and use every endeavour to conceal the knowledge of

it from others after they are compelled to admit it to themselves. In many cases they flatter themselves that the malady is only temporary, that the child will grow out of it, and that it may be cured or alleviated by medical treatment, and by home and parental kindness ; and there is a very strong inclination, no doubt in many cases well-founded, to believe that any attempt at instruction is likely to injure the child, to delay or prevent its perfect restoration to health and soundness.

These difficulties, common to all children who are in any degree afflicted, are enhanced by the surprising ignorance prevalent in the world as to the power of teaching deaf mutes, and as to their capacity for learning by other senses than that of hearing. The general feeling, so far as my experience goes, is that these children are nearly idiots, and beyond all means of instruction. In exceptional cases, where a deaf-mute has been taught anything, it was considered almost miraculous, and the child a prodigy. The number of deaf-mutes is not very great, and few among us are brought into immediate or frequent contact with them; and it is only in case of special assistance being required, that even one of our ordinary charitable and beneficent workers is led to inquire into the means of procuring help and instruction for the individual in whom he or she is personally interested.

As to the extent to which the education of deaf-mute children has been carried, there exists most striking ignorance; to speak for myself, I may say that during many years of my life I met with only one child, and she was in a temporary orphanage, among a large number whose parents had either died during one of our great famines in India or who had deserted them temporarily in the hope that they would be cared for better in their destitute condition. During some years of work in London I came across no such afflicted children; and until I joined the Sub-Committee of the School Board charged with the superintendence of the abnormal classes, I had not thought of the subject. During the last three years I have similarly found want of information among the ministers of various denominations, whose ordinary avocations bring them into immediate contact with the poor, and among the teachers in our schools, from whom I certainly expected better knowledge. More than one has brought to my notice the case of a child, who, they informed me with great surprise, had certainly some power of utterance, and they have been astonished to hear that speechlessness was very unusual, and that people were dumb only because they had never heard the words or sounds which they themselves had acquired the use of only by following the directions of their parents and teachers, and which they were themselves communicating to their pupils.

They have been surprised to hear that at no great distance from the school there were central classes in which children were being instructed in reading and writing through their power of imitating actions of lips and hands which they were taught to follow. There are now 16 such centres, with a varying number of classes under 43 teachers, in which there are enrolled 425 children.

Many of the teachers of ordinary schools had heard of an alphabet on the hands by which some communication could be made with the

exceptionally gifted deaf and dumb. But few were aware of the great success which had attended the endeavours to obtain intelligible utterance from the deaf-mute generally, and this in classes on the premises of some schools under the Board.

It is to this ignorance on the part of parents and teachers, and in some degree of our visitors, that I attribute the fact that many children are not brought into our classes till they are considerably above the age at which it is considered advisable to begin their education. This is, I find, generally held to be seven years, and the endeavour to teach at an earlier age was considered by a teacher (for whom I have the highest respect) unsatisfactory, because if a child under seven is taken he must be educated on what he calls the "play" system, and treated so leniently that he will afterwards object to being taught in any other manner. I may say in passing that a deaf child of seven years of age is considered to be in about the same phase of intelligence as a hearing child of five.

My first objection to this statement is, that if we do not teach a deaf child till he is seven years old, he will necessarily acquire a system of communication with his relations and neighbours, "natural signs" as experts call them, and he may similarly "object to being taught in any other manner."

One very strong supporter of the oral system, says, "It is impos-
"sible for deaf children to have the full benefit of a pure oral system
"if they have at any time been taught on another system or are
"allowed to become acquainted with the manual alphabet, or system
"of signs." I cannot reconcile the two opinions as to the advisability of refraining from educating deaf children under seven years of age, and the impossibility of teaching them language if they have acquired any means of communication by signs.

But further, I think the remark as to the "play" system is most fully and forcibly answered by the universally acknowledged success of the Kindergarten methods. We have mere babies in our ordinary schools learning many things in the purest play, and find no difficulty in passing them on to more earnest and serious methods of acquiring knowledge.

Many of them have as little, or very little more, language than our deaf children when they first enter school; and as it appears to me, we have only to turn to account the power of imitation by sight which the children possess in a strong degree, and which they exercise naturally very much.

I cannot vouch for the truth of a tale which I read or heard a short time ago of a deaf and dumb cow, who followed the action of her companions in the herd, in thrusting out her head and going through the action of lowing, but without uttering any sound.

Our experts have discovered the method of obtaining the further accomplishment of articulation, but I have myself seen an instance of failure of procuring the sounding of vowels.

I do not propose to enter into the comparative merits of the pure oral or of the manual systems of educating the deaf. I fully acknowledge the great advantage to a deaf person that he should be able to communicate with the world in general, which he can do *only* by possessing and using the power of speech; but under the circumstances of our position in the day schools under the London Board, I am satisfied that we cannot teach *all* our pupils orally; and I am very glad that the Board have permitted the instruction by signs in one class, where the progress made by boys who were considerably backward has been very satisfactory.

In many cases children have been discovered and compelled to attend who were much above the age at which it is thought practicable to teach articulation; they have acquired other methods of communication, which they continue to practice in their homes and in the streets, because their companions, and frequently their parents also, have not the time and patience necessary to understand broken syllables and imperfect pronunciation.

There is moreover a further difficulty, not unknown in our hearing classes, that the simple grammatical English of our reading books is not the mother-tongue commonly used.

Where parents or relations take a real interest in the teaching of the children there is good ground for believing in great success in teaching and maintaining the use of speech; but I submit that imperfect instruction is useless, and not productive of any advantage. The child who cannot speak intelligibly, or whose voice is harsh and irritating, will be avoided, and will give up his acquired power even more quickly than he attained it.

I have been somewhat surprised at the capacity for reading the lips of their teachers and schoolfellows shown by many of the pupils in our classes, but I fear very few of them are sufficiently advanced to understand strangers and casual visitors. Practice of this branch of instruction would certainly improve their means of communication, and should be encouraged even if the pupil did not articulate well or pleasingly.

Our object is to impart knowledge, and to impart as much as we can in the time allowed by the various circumstances of attendance and capacity of our children. If children are admitted at an early age, I would use every endeavour to teach language and lip reading for, say, one year, as recommended by the Royal Commission, and after that would continue the system or remove the child to a separate class where the sign and manual method is carried on, according to each pupil's ability and aptitude.

I believe that much more may be done towards perfect instruction in an institution where all persons about them are concerned in forwarding the systematic education, than in the ordinary life to which many of our London children return from their classes.

I would encourage in every way the mixing of deaf with hearing children wherever parents or friends would earnestly and heartily co-operate in

our endeavours. The lessons in cookery given to our older girls have been of service in bringing them into more social communication with hearing girls, and I hope that physical exercises which have been lately introduced will have the same effect, as well as improve their health and bodily condition. It is also intended to send these children to the laundry classes which have been lately established by the Board.

I look forward also to carrying our more advanced pupils into the drawing and technical classes of the ordinary school. They show great aptitude for writing, perhaps because of its use in communicating while learning speech, and in the Homes * I find some of them doing very satisfactory and good work in wood-carving, &c. The fact that they see they can do things like others, as well as, and in some cases, better than they, is highly conducive to opening their minds, and to fostering a healthy emulation.

Zur Hygiene der Sprache des Kindes.

VON

Dr. H. GUTZMANN, Berlin.

Das Thema, worüber ich vor Ihnen zu sprechen die Ehre habe, wird wohl selten oder auch nie auf diesen Versammlungen berührt worden sein.

Die Sprachheilkunde ist erst ein Kind unserer neueren Zeit. Leider sind aus früheren Jahrhunderten, ja selbst aus früheren Jahrzehnten keine Statistiken über die Verbreitung von Sprachstörungen vorhanden, wenn auch aus zahllosen Stellen der Weltlitteratur hervorgeht, dass es zu allen Zeiten und unter allen Völkern Störungen der Sprache gegeben hat. Deswegen ist es auch schwer nachzuweisen, ob sich in unserer Zeit die Sprachstörungen vermehrt haben oder nicht. Jedoch erscheint mir aus rein sozialen Gründen hervorzugehen, dass die Pflege der Lautsprache sich verschlechtert hat. In unserer rastlos dahin eilenden Zeit, in der sich Alles im Kampfe um das Dasein, im Kampfe um das tägliche Brod jagt und hastet, giebt es unter dem Arbeiterstande kaum noch ein ruhiges und gemüthliches Familienleben, Mann und Frau müssen arbeiten, um den nöthigen Lebensunterhalt zu erwerben, die körperliche und noch mehr die geistige Entwickelung der Kinder wird dabei natürlich vernachlässigt, selbst im guten Mittelstande ist dies nicht viel anders.

Die Pflege der Lautsprache des Kindes ist zwar nur ein kleines Gebiet der gesammten Kinderhygiene, ist aber darum sicherlich nicht

* Maintained by Dr. Stainer by other means and contributions apart from the Board, which undertakes only elementary instruction.

minder wichtig. Heute erfordert mehr als jemals fast jeder Beruf und jede Lebensstellung die vollendete Beherrschung der Lautsprache, und wenn man sieht, wie sonst tüchtige Menschen durch irgend eine Störung ihrer Sprache selbst bei Ausübung eines gewöhnlichen Handwerkes den Mindertüchtigen, aber Sprachgewandteren nachgestellt werden, so ist es sicherlich auch unsere Aufgabe, über die Mittel nachzudenken, welche derartige Zustände verhindern können.

Die Hygiene der Sprache wird natürlich am wirkungsvollsten zur Zeit der Sprachentwickelung selbst angewandt werden, d. h. im Kindesalter; die Art der sprachhygienischen Einwirkung ergiebt sich naturgemäss aus der Art und Weise, in welcher die Sprachentwickelung des Kindes zu erfolgen pflegt. Ohne auf Vollständigkeit Anspruch machen zu wollen, möchte ich in diesem Vortrage versuchen, einige wesentliche Gesichtspunkte für die Hygiene der Sprache des Kindes auf Grund der Sprachentwickelung aufzustellen.

Die sprachliche Entwickelung des Kindes vollzieht sich nach Kussmaul in drei Perioden.

I. Die ersten Sprechversuche treten schon vor Ablauf des ersten Vierteljahres ungefähr zu derselben Zeit ein, wo das Kind die ersten greifenden Bewegungen macht. Besonders in behaglicher Stimmung versucht sich der Säugling in der Hervorbringung der mannigfachsten und merkwürdigsten Lippen- und Gaumenlaute, die bereits an die gewöhnlichen Laute seiner Muttersprache erinnern, wenn sie auch noch nicht deren fest ausgeprägte Gestalt haben.

Kussmaul nennt diese Laute "wilde Laute" und glaubt in ihnen die den Menschen von Anbeginn verliehenen Urlaute zu sehen, welche sich im Laufe unzähliger Generationen zu allen den Lauten ausbildeten, die in den Alphabeten der heutigen Volkssprachen enthalten sind. Er hält sie für rein reflektorischer Natur und für ein Erzeugniss desselben Muskelbetriebes, welcher das Kind antreibt, mit den Händchen um sich zu schlagen und mit den Beinchen zu strampeln und dadurch seine Muskeln für das spätere Greifen und Gehen zu stärken und auszubilden.

In dieser ersten Periode der Sprachentwickelung ist von irgend einer sprachhygienischen Einwirkung natürlich keine Rede.

II. Die zweite Periode der Sprachentwickelung. Preyer u. A. betonen, dass alle neugeborenen Menschen taub oder harthörig sind, und dass sich das Gehör in den ersten Lebenstagen nur langsam verschärft, dass also eine kurze Periode physiologischer Taubstummheit bei jedem Kinde vorhanden ist. Die Hörfähigkeit entwickelt sich allmählich, und die zweite Periode der Sprachentwickelung kennzeichnet ihren Eintritt dadurch, dass das Kind horcht und Töne unterscheiden lernt, wobei fast zu gleicher Zeit der Nachahmungstrieb "in seiner ganzen ursprünglichen Macht" zum Vorschein kommt und die wilden Urlaute allmählich durch die gebräuchlichen Laute der Volkssprache verdrängt. Die elementare Macht der Nachahmung zeigt sich so recht in dem von Herodot beschriebenen Experiment Psammetich's, welcher zwei neugeborene Knäblein vollständig aus der menschlichen Gesellschaft

entfernte und durch Ziegen auffüttern liess. Die Kinder sollen dann nach zwei Jahren zuerst das Wort "Bekos" ausgesprochen haben, wie Techmer hinzufügt: "Keine üble Nachahmung der Sprache ihrer Ammen."—Schon frühzeitig erwacht bei den Kindern der musikalische Sinn. Sigismund erzählt, dass sein Knabe mit ihm Melodien sang und dieselben nachahmte, noch ehe er Worte nachzuahmen vermochte. Vielleicht ist es auch dieser Umstand, der Goethe zu dem Ausspruche veranlasste, dass die Musik die Grundlage der Erziehung bilden müsse.

Die Nachahmung der Worte schreitet aber nicht mit dem Verständniss derselben in gleicher Weise vorwärts. Die Kinder "verstehen einzelne, ohne sie nachzuahmen und ahmen viele nach, ohne sie zu verstehen."

Ferner ist wichtig, dass fast immer ein Missverhältniss besteht zwischen der Lust an der Lautnachahmung und der Geschicklichkeit der dazu benöthigten Muskulatur. Endlich ist es für die Beurtheilung und Prognose mancher Fälle von scheinbarer Aphasie von Bedeutung, dass die Lust an der Lautnachahmung bei den verschiedenen Kindern zu sehr verschiedener Zeit erwacht, und es scheint nach Preyer so, als ob die Mädchen den Knaben voraus wären, sowohl was die Geschicklichkeit als was die Lust zum Nachahmen betrifft.

In dieser Periode haben wir bereits die ersten wichtigen Anhaltspunkte für eine systematische Sprachhygiene. Von pädagogischer Seite wurde es längst anerkannt, "dass die Sprachbildung der Kinder von früh an eine ernste Sorgfalt erfordert," (Joh. Friedr. Herbart) und Pestalozzi war der Erste, der diesen Gedanken praktisch durchführte, als er sein Buch für die Mütter schrieb. Die einzelnen Gesichtspunkte sind folgende:

1. Das sprachliche Vorbild des Kindes muss möglichst gut sein.—Je besser und deutlicher vorgesprochen wird, desto leichter ahmt es auch nach.

2. Schlechte sprachliche Vorbilder müssen sorgfältigst von dem Kinde ferngehalten werden. Die Nachahmungsfähigkeit der Kinder ist so ausserordentlich gross, dass man in diesem Punkte nicht vorsichtig genug sein kann. Besonders muss man den Eltern rathen, zunächst selbst zu dem Kinde nur exakt und scharf artikulirt zu sprechen, ferner bei der Wahl einer Amme oder Kinderfrau auch die Sprache derselben zu berücksichtigen. Ich habe von Sprachfehlern, welche auf diese Weise bereits im frühesten Kindesalter entstanden waren, die merkwürdigsten Beispiele gesehen, so handelte es sich in einem Falle um vier Geschwister, welche sämmtlich nach dem Vorbilde der Amme die s-Laute aus dem rechten Mundwinkel hervorzischten. Als diese vier Geschwister erwachsen waren, pflanzte sich die üble Angewohnheit auf das Kind eines derselben fort. Die anderen hatten ihren Kindern schon Namen gegeben, in denen kein s-Laut vorkam, und entzogen sich soviel als möglich dem Umgange mit ihren Kindern, um nur die Uebertragung zu verhüten. Genau denselben Fehler habe ich in einer anderen Familie auf drei Kinder ebenfalls durch die Amme übertragen werden sehen.

In einer dritten Familie hatte ein Kind ein wendisches Kindermädchen, und die Folge davon war, dass es neben zahlreichen anderen Fehlern der Aussprache den gehauchten Vokaleinsatz nicht zu machen im Stande war, es sprach statt Hut: ut, statt Hanna: Anna.—Führen wir noch zu den oben genannten beiden Punkten einen Ausspruch Pestalozzi's an, der gerade für das gute Vorsprechen von Bedeutung ist:

"Es stellt sich Niemand vor, der es nicht gesehen, in welchem Grade das Vorsprechen dieser einfachen Töne ba ba ba, da da da, ma ma ma, la la la u. s. w. die Aufmerksamkeit unmündiger Kinder rege macht und für sie Reiz hat, ebenso wenig, was durch das frühe Bewusstsein dieser Töne für die allgemeine Lernkraft der Kinder gewonnen wird."

Aus diesem Ausspruch geht auch hervor, dass man

3. Kindern, welche geringe Lust an der Lautnachahmung zeigen, möglichst viel vorsprechen und in der Bemühung, sie dadurch zum Nachahmen anzuregen, nicht erlahmen soll.—

Da die Reihenfolge der Entwickelung der einzelnen Sprachlaute eine, wenn auch nicht immer gleiche, so doch ähnliche ist, welche ganz naturgemäss von der Leichtigkeit der Bildung derselben abhängt, so soll man sich auch

4. bei diesen Vorsprechübungen ungefähr an die Reihenfolge dieser Entwickelung halten. Die von Fritz Schulze aufgestellte Lautentwickelungsreihe, welche nicht aus einer einzigen Beobachtung resultirt, sondern aus einem Beobachtungsmaterial, das er selbst allerdings noch lange nicht für genügend hält, ist folgende:

Er findet, dass die physiologische Schwierigkeit in der Richtung von den Lippen zu den Gaumenbuchstaben wächst, und dass deshalb bei dem Kinde die letzteren am spätesten hervortreten. Fritz Schulze stellt sechs Stufen des sprachlichen Könnens beim Kinde auf. Die erste Stufe wird durch die Konsonanten p, b, m, f, w, d, n, die zweite durch l und s, die dritte durch ch und j, die vierte durch sch, die fünfte durch r und die sechste durch ng, k und g dargestellt.—Wo also das Vorsprechen nothwendig erscheint, wird man gut thun, auch die Laute möglichst in dieser Entwickelungsweise einzuüben, ohne sich jedoch pedantisch an dieselbe zu halten, da man stets zufrieden sein muss, wenn das Kind einen neuen Laut erlernt, und da erfahrungsgemäss die Reihenfolge, in welcher die einzelnen Laute auftreten, individuell sehr ungleich ist (Preyer).

III. Die dritte Stufe der Sprachentwickelung charakterisirt sich dadurch, dass das Kind mit den eingeübten Worten bestimmte Objektbilder zu verbinden lernt, dass dadurch die Sprache als Gedankenausdruck des Kindes dient. Auf dieser Stufe der Sprachentwickelung tritt das oben angedeutete Missverhältniss zwischen Sprechlust und Geschicklichkeit der Sprechmuskulatur häufig sehr auffallend in die Erscheinung. Oft macht es, besonders wenn die Kinder, wie Preyer hervorhebt, unter Anwendung eines unnöthig starken Exspirationsdruckes zu sprechen versuchen, den Eindruck von wirklichem Stottern.—Verschiedene schwerer zu bildende Laute werden

von den Kindern durch leichter zu bildende ersetzt. Häufig zeigt sich die Erscheinung des Silbenstolperns, auch die des "Sichversprechens." (Skoliophasie—Preyer.) Alle diese Unvollkommenheiten der kindlichen Sprache sind wichtige Anhaltspunkte für die Sprachhygiene. Diese Punkte sind folgende:

1. Da das Kind durch das beschriebene Missverhältniss zwischen Sprechlust und Geschicklichkeit der Sprechmuskulatur in Gefahr gerathen kann, Stottern oder Poltern zu erwerben, so müssen seine Sprachleistungen unter fortwährender Leitung und Aufsicht gehalten werden. Ich führe hier einen Satz Albert Gutzmann's, meines Vaters, an, der mir die wesentlichsten praktischen Massnahmen zu enthalten scheint, die man gegen die genannte Gefahr ergreifen kann:

"Das Kind ist in allen seinen Handlungen wenig berechnend, häufig planlos, unbeständig, eilt von einer Beschäftigung zur anderen Es fällt oft weniger aus Mangel an Körperkraft, als aus Uebereilung und Unvorsichtigkeit. So ist auch seine Denkthätigkeit. Die Gedanken jagen, überstürzen sich, und dies findet seinen Hör- und sichtbaren Ausdruck im Sprechen. Das Kind geht nicht in seinen Worten, sondern es läuft oder überstürzt sich. Die Folge davon ist, bei der noch unzureichenden Geübtheit des Denk- und Sprech-Instrumentes ausser anderen Fehlern auch das Stottern. Darum bedarf das hierzu neigende Kind einer verständigen Führung in seiner Denk und Sprechthätigkeit und darf sich in seiner Sprachentwickelung nicht selbst überlassen bleiben. Das Kind hört gern Märchen und Geschichten. Man erzähle sie ihm in kurzen, logisch zusammenhängenden Sätzen und lasse jeden Satz von ihm langsam und möglichst lautrein nachsprechen.

"Dann frage man in angemessener Form und lasse ebenso langsam die Antworten geben. Die Aussicht auf eine neue Geschichte schafft dem Kinde die nöthige Geduld und Ausdauer. Das Kind hat auch Bilder lieb. Man gebe sie ihm und knüpfe daran für seinen geistigen Standpunkt passende Sprechübungen. Kinder fragen auch gern und viel. Man lasse sich dies nie verdriessen, sondern benutze auch diesen Trieb zur Förderung normalen Sprechens."

In Bezug auf Bilder sei erwähnt, dass ein vernünftig geleiteter Anschauungsunterricht ausserordentlich viel zu einer gedeihlichen Sprachentwickelung beizutragen vermag.

Ich kann als ein Hülfsmittel dazu "Bohnys neues Bilderbuch," welches im Jahre 1885 in zwölfter Auflage erschien und wegen seines wirklich praktischen Werthes in neun fremde Sprachen übersetzt wurde, nicht genug rühmen und empfehlen. Die Fragen, wie sie dem Anschauungsvermögen der Kinder entsprechend gestellt werden müssen, sind unter die betreffenden Bilder untergedruckt, und es ist demjenigen, der den Anschauungssprachunterricht zu leiten hat, auf diese Weise ausserordentlich bequem gemacht, so dass das hübsch ausgestattete Buch in der Hand jeder Mutter seinen Zweck erreichen wird.

2. Die Kinder können in der dritten Periode der Sprachentwickelung meist noch eine Reihe von Lauten nicht richtig sprechen, oder sie setzen statt einiger schwererer Laute, andere leichter zu bildende Laute ein (Stammeln). Natürlich ist diese Erscheinung bis zu einem gewissen Alter der Kinder physiologisch, kann indessen bei mangelhaft geleiteter Uebung leicht zu einem dauernden Sprachfehler werden. Durch fortwährendes richtiges Vorsprechen kann man hier sehr viel erreichen, wie dies bereits früher hervorgehoben wurde.

3. Die Sprachentwickelung ist bei fast der Hälfte der Kinder noch nicht vollendet, wenn sie die Schule besuchen. Ueber die Sprachstörungen unter der Schuljugend habe ich mich bereits in mehreren Veröffentlichungen* des Weiteren ausgelassen, so zuletzt in der Sektion für Kinderheilkunde auf dem X. internationalen medizinischen Kongress in Berlin. Ich will hier der Vollständigkeit halber nur die Resultate meiner Untersuchungen anführen. Von den in die Schule aufgenommenen Kindern, die sich meistens im Alter von 6 Jahren befinden, und von denen, wie schon gesagt, mindestens noch die Hälfte in der Sprachentwickelung steht, leiden bereits 0·5% an Störungen der Sprache: Stottern und Stammeln. Diese Sprachstörungen nehmen in der Schule selbst so ausserordentlich zu, dass sie sich im zweiten Schuljahre bereits auf 1% aller Kinder erstrecken. Am Schlusse der Schulzeit—d. h. bei den Kindern der Volksschule im Alter von 14 Jahren—leiden bereits 1·5% aller Kinder an Sprachstörungen. Ich habe diese Resultate aus zahlreichen Statistiken gewonnen, die sich auf über 200,000 Kinder erstrecken, und es geht daraus hervor, dass sich in Deutschland allein 100,000 stotternde oder stammelnde Schulkinder befinden. Ich weiss nun zwar nicht, ob in anderen Ländern ähnliche Zählungen über die Ausbreitung der Sprachstörungen unter der Schuljugend gemacht worden sind, das aber scheint kaum dem Zweifel unterworfen zu sein, dass auch in den anderen zivilisirten Ländern der Prozentsatz nicht bedeutend abweicht.

Die einzige Möglichkeit, eine derartige Ausbreitung der Sprachstörungen zu verhüten, sehe ich in einer energischen Hygiene der Lautsprache, wie sie beim ersten Leseunterricht angewandt werden kann und soll. Nothwendig dazu ist, dass die Lehrer, welche denselben ertheilen, die nöthigen sprachphysiologischen und sprachhygienischen Vorkenntnisse in ihrer Ausbildungszeit erwerben. Dafür Sorge zu tragen, ist die Pflicht jedes Staates.

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* Hermann Gutzmann, Die Verhütung und Bekämpfung des Stotterns in der Schule. Leipzig 1889.

Ferner: Ueber die Sprachgebrechen unter der Schuljugend, Verhandlungen des X. internationalen medizinischen Kongresses 1890. Bd. II., Abth. 6.

Ueber die Sehschärfe der Schüler.

VON

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Bei dem regen Weltverkehr, dessen sich Hamburg als die erste Handelsstadt des europäischen Kontinents erfreut, habe ich wiederholt Gelegenheit gehabt, die Augen solcher Individuen, welche Naturvölkern angehörten, zu untersuchen. Dabei ist mir jedesmal die ausserordentliche Sehkraft derselben aufgefallen.

So hatten von 7 Lappländern die 3 Erwachsenen im Durchschnitt eine Sehschärfe von 2·25, die 4 Kinder eine solche von 2·38.

Bei einem 43jährigen Patagonier betrug dieselbe auf jedem Auge 2·15, bei einer 27jährigen Patagonierin 2·0, bei einem 5jährigen patagonischen Knaben gleichfalls 2·0.

Aehnlich fand ich bei 10 erwachsenen Nubiern eine mittlere Sehschärfe von 2·56, bei 3 jüngeren Nubiern eine solche von 2·67.

Von 17 Kalmücken besassen 15, welche 17 bis 35 Jahre alt waren, ein durchschnittliches Sehvermögen von 2·88, 2 Mädchen im Alter von 15 Jahren ein solches von 2·04.

Endlich konstatierte ich bei 18 erwachsenen Singhalesen im Mitte, eine Sehschärfe von 2·06, bei 2 singhalesischen Kindern eine solche von 2·23, während 3 Hindus im Alter von 20 bis 45 Jahren eine durchschnittliche Sehschärfe von 2·05 hatten.

Bei der Beurteilung dieser Zahlen ist freilich zu berücksichtigen, dass die Untersuchungen unter freiem Himmel, also bei besonders guter Beleuchtung, stattfanden und dass als Probeobjekte die *Snellen*schen Hakenfiguren verwendet wurden, welche ungefähr um $\frac{1}{4}$ weiter als die *Snellen*schen Probebuchstaben gesehen werden.

Es erschien nun die Beantwortung der Frage von Interesse, ob nicht auch bei den Kulturvölkern wenigstens jugendliche Augen eine ähnliche Sehschärfe wie die Naturvölker zeigen, vorausgesetzt dass sie unter gleich günstigen Verhältnissen zur Untersuchung gelangen.

Eine erwünschte Gelegenheit zu einer solchen Untersuchung bot sich mir bei den Schülern des Gymnasium Christianeum in Altona. Hier konnte ich die Augen nicht nur während der hellsten Tagesstunden von $12\frac{1}{2}$ bis $2\frac{1}{2}$ Uhr prüfen, sondern diese Prüfung auch in der grossen, durch 6 hohe Fenster glänzend beleuchteten Aula mit aller Sorgfalt vornehmen.

Als Probeobjekte dienten wieder die *Snellen*schen Haken, welche an der den Fenstern gegenüberliegenden Wand in Augenhöhe befestigt waren. Die Entfernung, in welcher dieselben erkannt wurden, ward an einer mit Kreide auf den Fussboden gezeichneten in ganze und halbe Meter eingeteilten Skala abgelesen.

Im ganzen gelangten so 421 Gymnasiasten mit 842 Augen zur Untersuchung. Von letzteren waren 408 oder 48·45 Prozent emmetropisch, 343 oder 40·74 Prozent myopisch, 83 oder 9·86 Prozent hypermetropisch und 8 oder 0·95 Prozent astigmatisch. Bei den astigmatischen Augen fand sich 5 mal zusammengesetzter hypermetropischer, 3 mal einfacher myopischer Astigmatismus.

Die mittlere Sehschärfe der 408 emmetropischen Augen betrug 1·25, indem die *Snellen*schen Probehaken, welche auf 6·5 m gesehen werden sollen, durchschnittlich auf 8·144 m erkannt wurden. Geringer war die Sehkraft der 343 myopischen Augen, nämlich $\frac{6·866}{6·5}$ oder 1·05, noch geringer diejenige der 83 hypermetropischen, nämlich $\frac{5·316}{6·5} = 0·82$. Die 8 astigmatischen Augen lasen die *Snellen*schen Haken statt auf 6·5 durchschnittlich bloss auf 1·656 m, so dass sie eine Sehschärfe von nur $\frac{1}{4}$ der normalen hatten.

Auch die Unterschiede in dem Sehvermögen des rechten und linken Auges fanden Berücksichtigung. Als mittlere Sehschärfe der 210 rechten emmetropischen Augen ergab sich $\frac{7·985}{6·5} = 1·23$, als diejenige der 198 linken emmetropischen Augen $\frac{8·351}{6·5} = 1·29$. Die 170 rechten myopischen Augen hatten eine durchschnittliche Sehschärfe von $\frac{6·719}{6·5} = 1·03$, die 173 linken myopischen Augen eine solche von $\frac{6·982}{6·5} = 1·07$. Die Sehschärfe der 38 rechten hypermetropischen Augen betrug im Mittel $\frac{5·412}{6·5} = 0·832$, die der 45 linken $\frac{5·424}{6·5} = 0·835$. Endlich fand ich bei den 4 rechten astigmatischen Augen im Durchschnitt eine Sehschärfe von $\frac{1·25}{6·5} = 0·19$, bei den 4 linken astigmatischen Augen eine solche von $\frac{2·062}{6·5} = 0·32$.

Was die Sehschärfe bei den verschiedenen Graden der Myopie anbetrifft, so betrug dieselbe durchschnittlich

bei den 207 Augen mit einer Myopie von 0·5 bis 1·25 D. 1·13
„ „ 64 „ „ „ „ „ 1·5 „ 2·75 „ 0·97
„ „ 46 „ „ „ „ „ 3·0 „ 3·5 „ 0·93
„ „ 13 „ „ „ „ „ 4·0 „ 4·5 „ 0·95
„ „ 9 „ „ „ „ „ 5·0 „ 6·0 „ 0·58
„ „ 7 „ „ „ „ „ 7·0 „ 7·0 „ 0·67

Aehnlich ergab sich als mittlere Sehschärfe

bei den 73 Augen mit einer Hypermetropie von 0·5 bis 1·25 D. 0·90
„ „ 9 „ „ „ „ „ 1·5 „ 2·75 „ 0·33
„ dem 1 Auge „ „ „ „ 3·0 „ 3·5 „ 0·31

Es wurde ferner die Frage aufgeworfen, ob erblich belastete oder nicht belastete Myopen besser sehen. Dabei fand sich, dass die 232 nicht belasteten myopischen Augen eine durchschnittliche Sehschärfe von 1·08 hatten, die 111 belasteten eine solche von 1·01. Von den 111 belasteten myopischen Augen sahen am schlechtesten die 10, bei denen beide Eltern kurzsichtig waren: V = 0·79; dann folgten die 81, bei denen allein der Vater myopisch war: V = 1·02; am schärfsten sahen die 20, bei denen ausschliesslich die Mutter an Myopie litt: V = 1·09.

Wie die belasteten Myopen bezüglich des Sehvermögens ungünstiger als die nicht belasteten gestellt waren, so die absoluten Hypermetropen weniger günstig als die fakultativen. Die 14 absolut hypermetropischen Augen wiesen nämlich eine mittlere Sehschärfe von 0·71 auf, die 69 fakultativ hypermetropischen eine solche von 0·86.

Bei der Bestimmung des Einflusses der Lebensjahre auf die Sehschärfe der Emmetropen wurde konstatirt, dass dieselbe im Durchschnitt betrug

bei den	41	emmetropischen	Augen	9jähriger			0·84
„ „	54	„		„	10	„	1·15
„ „	45	„		„	11	„	1·15
„ „	72	„		„	12	„	1·35
„ „	47	„		„	13	„	1·24
„ „	43	„		„	14	„	1·37
„ „	34	„		„	15	„	1·28
„ „	28	„		„	16	„	1·48
„ „	17	„		„	17	„	1·56
„ „	9	„		„	18	„	1·40
„ „	14	„		„	19	„	1·40
„ „	4	„		„	20	„	1·15

Ueber die Einwirkung der Lebensjahre auf die Sehkraft der Myopen gibt die folgende Tabelle Aufschluss. Als mittlere Sehschärfe wurde berechnet

bei den	8	myopischen	Augen	9jähriger			1·18
„ „	36	„		„	10	„	1·05
„ „	30	„		„	11	„	0·98
„ „	27	„		„	12	„	1·28
„ „	32	„		„	13	„	0·94
„ „	37	„		„	14	„	1·13
„ „	47	„		„	15	„	1·10
„ „	39	„		„	16	„	1·11
„ „	39	„		„	17	„	0·94
„ „	19	„		„	18	„	0·88
„ „	14	„		„	19	„	1·19
„ „	9	„		„	20	„	0·98
„ „	4	„		„	21	„	1·11
„ „	2	„		„	22	„	0·54

Auch bei den Hypermetropen machte sich der Einfluss der Lebensjahre auf die Sehschärfe geltend. Dieselbe betrug nämlich

bei den	21	hypermetropischen	Augen	9jähriger		0·73
„ „	18	„	„	10	„	0·94
„ „	11	„	„	11	„	0·94
„ „	5	„	„	12	„	0·95
„ „	4	„	„	13	„	0·48
„ „	8	„	„	14	„	0·72
„ „	4	„	„	15	„	0·86
„ „	7	„	„	16	„	1·15
„ „	2	„	„	17	„	0·51
„ „	2	„	„	18	„	0·35
„ „	0	„	„	19	„	—
„ dem	1	„	Auge eines	20jährigen		0·61

Nicht viel anders als die Lebensjahre wirkten die Schuljahre auf das Sehvermögen bei den verschiedenen Brechzuständen ein. Als durchschnittliche Sehschärfe ergab sich nämlich

für die	2	emmetropischen	Augen der	Schüler mit	2	Schuljahren 0·81
„	42	„	„	„	3	„ 0·94
„	40	„	„	„	4	„ 1·12
„	63	„	„	„	5	„ 1·16
„	58	„	„	„	6	„ 1·24
„	46	„	„	„	7	„ 1·36
„	50	„	„	„	8	„ 1·29
„	33	„	„	„	9	„ 1·36
„	34	„	„	„	10	„ 1·39
„	17	„	„	„	11	„ 1·47
„	12	„	„	„	12	„ 1·54
„	7	„	„	„	13	„ 1·41
„	2	„	„	„	14	„ 1·23
„	2	„	„	„	15	„ 1·11

Was den Einfluss der Schuljahre auf die Sehschärfe der Myopen betrifft, so wurde festgestellt, dass dieselbe im Mittel betrug

bei den	8	myopischen	Augen der	Schüler mit	3	Schuljahren 1·06
„	29	„	„	„	4	„ 1·04
„	33	„	„	„	5	„ 1·09
„	38	„	„	„	6	„ 1·16
„	31	„	„	„	7	„ 1·52
„	33	„	„	„	8	„ 1·07
„	44	„	„	„	9	„ 1·17
„	47	„	„	„	10	„ 1·03
„	30	„	„	„	11	„ 0·93
„	24	„	„	„	12	„ 1·06
„	14	„	„	„	13	„ 0·93
„	10	„	„	„	14	„ 1·02
„	0	„	„	„	15	„ —
„	2	„	„	„	16	„ 0·54

Endlich gestaltete sich die Sehkraft der Hypermetropen nach den Schuljahren folgendermassen. Es hatten eine durchschnittliche Sehschärfe

die	20	hypermetropischen	Augen	der Schüler	mit 3 Schuljahren	von 0·77
„	13	„	„	„	4 „	0·92
„	16	„	„	„	5 „	1·00
„	2	„	„	„	6 „	0·77
„	9	„	„	„	7 „	0·84
„	7	„	„	„	8 „	0·50
„	3	„	„	„	9 „	0·79
„	5	„	„	„	10 „	0·75
„	5	„	„	„	11 „	1·27
„	0	„	„	„	12 „	—
„	3	„	„	„	13 „	0·43

Ueberblicken wir die gewonnenen Resultate und ziehen die praktischen Konsequenzen für das Schulleben aus denselben, so sind folgende Punkte hervorzuheben.

Die grösste Sehschärfe besassen die emmetropischen Augen, eine geringere die myopischen, eine noch geringere die hypermetropischen und die geringste die astigmatischen. Es ist daher wünschenswert, dass möglichst wenige Schüleraugen auf der frühsten Entwickelungsstufe, derjenigen der Hypermetropie, stehen bleiben, dass sich vielmehr eine möglichst grosse Zahl zu der zweiten Stufe, derjenigen der Emmetropie, weiter bilde. Haben doch die Emmetropen neben dem Vorzug der stärkeren Sehkraft zugleich denjenigen, dass die Sehschärfe bei ihnen mit den Lebens- und Schuljahren zunimmt, was bei den Hypermetropen und Myopen nicht der Fall ist. Je mehr also das Wachstum der hypermetropischen Augen in die Länge zur Emmetropie hin erfolgt, desto besser für sie. Denn wie die absoluten Hypermetropen schlechter als die fakultativen sehen, so nimmt auch die Sehschärfe um so mehr ab, je höher der Grad der Hypermetropie ist.

Andererseits darf aber die Entwickelung der Schüleraugen nicht über die Emmetropie hinaus bis zur Myopie fortschreiten, da wir sehr wesentliche Nachteile der letzteren kennen lernten. Denn die myopischen Gymnasiasten sahen nicht nur überhaupt schlechter als die emmetropischen, sondern ihre Sehschärfe sank auch um so mehr, je hochgradiger ihre Kurzsichtigkeit war. Ja sie bilden selbst eine gewisse Gefahr für ihre dereinstige Nachkommenschaft, da myopische Kinder mit Belastung eine geringere Sehschärfe als solche ohne Belastung besitzen. Dass von den belasteten myopischen Schülern diejenigen, deren beide Eltern kurzsichtig waren, am wenigsten gut sahen, ist leicht zu verstehen. Die geringere Sehschärfe der allein von väterlicher Seite belasteten in Vergleich zu den ausschliesslich durch die Mutter belasteten dürfte sich daraus erklären, dass die Väter von Gymnasiasten, weil vielfach Gelehrte, im allgemeinen hochgradiger kurzsichtig als die Mütter sind.

Hervorgehoben zu werden verdient noch die interessante Thatsache, dass sowohl bei den Emmetropen, wie bei den Myopen, Hypermetropen und Astigmatikern durchschnittlich das rechte Auge das weniger

sehscharfe war. Dieser Unterschied zwischen beiden Augen machte sich, abgesehen von den Astigmatikern, am meisten bei den Emmetropen bemerkbar. Den Grund für die verringerte Sehschärfe des rechten Auges sehen wir darin, dass dasselbe in der Regel den zu betrachtenden Gegenständen mehr als das linke zugekehrt und demnach auch zu stärkerer Accommodationsanstrengung gezwungen wird. Die grössere Annäherung des rechten Auges an die Objekte aber erfolgt einesteils, weil die Schüler fast ausnahmslos rechtshändig sind und daher fast alles von rechts her den Augen nähern, anderntеils weil die meisten in der Schule gelehrt worden sind, beim Schreiben das Heft rechts von der Körpermitte zu legen. In Uebereinstimmung hiermit hat denn auch Dr. *Schubert* durch eine umfassende Statistik festgestellt, dass bei Anisometropen das rechte Auge im allgemeinen das stärker brechende ist.

Wollen wir also der Schuljugend eine gute Sehschärfe auf beiden Augen erhalten, so werden wir sowohl die Myopie durch die bekannten, hier nicht zu wiederholenden Mittel, wie die von allen Hygienikern verwortene Rechtslage des Heftes zu bekämpfen haben.

On the Importance of Detecting and Treating Defects of Vision and of Hearing in Board School Children.

BY

ADOLPH BRONNER, M.D., Surgeon to Bradford Eye and Ear Hospital.

In bringing this subject before you, I do not intend to trouble you with any long statistics or researches of my own, but would like to treat the subject from a purely practical point of view.

We all of us know how frequently defects of vision and hearing are met with in children. Cohn, of Breslau, Priestley Smith, and others have shown that between 16 and 30 per cent. of school children have defective vision. Bezold, of Munich, examined nearly 2,000 children and found impaired hearing in about 26 per cent.

There is another very common and important affection which is in intimate connexion with diseases of the ear, I refer to the so-called post-nasal growths. This is an enlargement of the glandular tissue of the back of the nose, which prevents the free passage of air through the nostrils, and also often causes inflammation of the middle ear. The children cannot breathe through the nose, and therefore always keep the mouth open and snore at night. The growths thus prevent normal development of the chest and lungs, and they also, as Professor Guye, W. Hill, Scanes Spicer, and others have pointed out, affect the mental development of children. Meyer, of Copenhagen, shows that from two to seven per cent. of children suffer from post-nasal growths, and that over 80 per cent. of children who have these growths are also deaf.

Statistics thus show how very common defects of vision and of hearing are in children. How many of these cases are attended to in time? Very few indeed! Even in adults of the educated classes we not infrequently meet with patients who have not been able to see or hear well for some months, or even years, and who have never before sought medical advice. How much more are these cases neglected in the children of the uneducated classes? In these cases it is the duty of the master at school to interfere and to see that the children are attended to. At present a child who cannot see or hear well, and who therefore does not get on well at school, is looked upon as stupid and lazy, and treated accordingly. Many a brilliant career has been spoilt, and many a child condemned to a life of misery and toil, because some defect of vision and hearing has been neglected. But not only that, we often meet with neglected cases which have become a life-long burden to their relatives or to the community at large. Many cases of neglected discharge from the ear end in inflammation of the brain and death. Neglected cases of post-nasal growths lead to deafness and imperfect development of the body and mind.

The teachers of our board schools are at present perfectly incompetent to deal with these cases. They have no means of testing the vision or hearing of the children, and even if they had, they have no orders or authority to interfere.

What I would suggest is, that certain instructions be given to the teachers, so that they may, in a rough manner at least, be able to judge if a child is defective in sight or in hearing. The case should be reported to the head-master, who would then inform the parents of the child, and request them to have the child examined by their family doctor, or, if they are poor people, at some hospital.

All children should be reported whose vision in either eye is less than $\frac{6}{18}$, and who cannot read Jaeger 2 at from 50 to 10 c.m. Also all children who cannot hear a pocket-watch at about 15″, and also those who cannot breathe through the nose, and who consequently keep the mouth open and snore at night. No child ought to be allowed to attend school if and as long as there is any discharge from the ear or ears.

That these suggestions are imperfect and open to grave objections, I know perfectly well. Still I think they are a step in the right direction. They may be of some benefit to the children till we succeed in having medical men appointed to examine the children of all public schools, and I sincerely hope and trust that the time may not be far distant when every large town will have a medical inspector whose sole duty it shall be to watch over the health and well-being of the children of the poor, and also of the rich. For on their health and welfare rests not only the happiness of our homes, but also the greatness and prosperity of our nation.

Nécessité des Études anthropologiques et anthropométriques dans la première Enfance, la Jeunesse, la Vie de l'École et l'Âge adulte.

PAR

le Dr. M. DE TOLOSA-LATOUR, Médecin en Chef de l'Asile du Sacré-Cœur de Jésus à Madrid.

A propos de l'hygiène scolaire, les membres organisateurs de ce Congrès ont posé, dans la quatrième Section, paragraphe IV, une série de questions sur le développement intellectuel et physique de l'enfance. Depuis longtemps déjà, ce problème m'a profondément préoccupé. En 1879, dans mes études sur l'hygiène et l'éducation de l'enfant, au Congrès de la Protection de l'Enfance, tenu à Paris en 1883, au Congrès gynécologique et pédiatrique de Madrid, en 1888, enfin au Congrès de Protection de l'Enfance, tenu à Anvers, en 1890, j'ai fait ressortir l'importance et la nécessité d'étudier ces problèmes et j'ai soutenu, à propos du placement dans les familles, que tout enfant devait préalablement subir une période d'observation et être soumis à des mensurations régulières; qu'il fallait recueillir avec soin tous les faits susceptibles de mettre en lumière ses aptitudes. Un vœu a été formulé, au sujet des enfants assistés, ayant pour but de pratiquer un examen méthodique de ceux-ci.

L'anthropologie est une branche nouvelle des sciences médicales; sa sœur cadette est l'anthropométrie, et je suis, tout en reconnaissant l'incontestable utilité de la première, absolument convaincu que la seconde est appelée à rendre de grands services, dans la solution des problèmes que cherche à résoudre l'hygiène; je veux parler de l'élevage du nourrisson, de l'éducation de l'enfant et du développement de l'homme.

C'est pour cela que je viens de nouveau appeler votre attention sur l'importance de cette méthode que je ne cesserai de propager avec l'énergie de la foi, dans une idée humanitaire.

Les limites qui me sont assignées par vos réglements ne me permettent malheureusement pas de m'étendre, autant que je le voudrais, sur cette question si digne d'intérêt; aussi, ne ferai je que l'esquisser, me réservant de la traiter plus à fond ultérieurement.

Examinons l'enfant dans trois conditions diverses :—

A.—Dans sa famille;
B.—Dans les écoles;
C.—Dans les asiles.

A. *Dans sa famille.*—Il serait à souhaiter que, dès naissance, l'enfant fût pesé et mesuré, d'après des indications précises; ces mensurations se renouveleraient tous les six mois.

Dans chaque mairie existerait un régistre à souches, sur lequel seraient inscrits les résultats et un bulletin serait remis chaque fois aux parents, avec prière de le conserver.

Cette mesure n'a rien de vexatoire et serait le corollaire de la loi qui exige, en tous pays civilisés (en Espagne, Registre civil, Juzgado municipal), la présentation du nouveau-né à l'officier civil. Du reste, certains parents s'y prêteraient volontier; en effet, vous avez vu se généraliser rapidement l'usage du pèse-bébés et beaucoup de pères sont heureux de noter sommairement, le long d'une planche ou d'un mur, la croissance de leurs enfants. J'ajouterai que l'on cherche à rendre obligatoire la vaccination qui est un des plus sérieux prophylactiques, ne s'addressant malheureusement qu'à une seule maladie. Pour triompher des résistances, il suffirait d'exiger, au moment de l'entrée dans les écoles, la présentation des bulletins sanitaires, comme on exige un certificat de vaccination.

Je noterai, chemin faisant que ce système a été imposé à l'administration pénitenciaire qui semble même s'y conformer trop rigoureusement, en l'appliquant aux prévenus qui pourtant sont réputés innocents, jusqu'au moment de leur condamnation, ce qui est bien autrement vexatoire. Et ce que la société fait, dans un but défensif, contre les criminels, ne doit-elle pas le faire avec plus d'intérêt en vue de l'hygiène?

Autant que possible, on répondra dans les familles des bulletins individuels sur lesquels le médecin particulier, ou un médecin délégué, pour les familles pauvres, inscrira les mensurations pratiquées, relatant avec soin les antécédents héréditaires, les remarques sur le tempérament de l'enfant et les cas pathologiques susceptibles de se produire ou déjà produits.

B. *Dans les écoles.*—L'adoption de cette pratique sera facile à provoquer. Tous les six mois, aura lieu un examen physique, de même que se pratique un examen intellectuel, à la fin de chaque année, et, concurremment avec le bulletin des progrès accomplis, le chef de l'établissement fera parvenir aux parents un bulletin du développement physique.

Dans l'administration pénitenciaire, ce sont des gardiens qui sont chargés de pratiquer les mensurations. Les instituteurs, toujours si dévoués, ne manqueraient pas d'accomplir, avec autant de zèle et d'intelligence la nouvelle tâche qui leur serait dévolue.

Quant à ce qui est du compte-rendu de l'état pathologique et des antécédents héréditaires, le soin en serait confié à un médecin inspecteur des écoles qui le ferait parvenir lui-même aux parents.

Cette mesure est aussi d'un grand intérêt au point de vue de la prophylaxie des maladies contagieuses. Après sa guérison, aucun enfant ne serait admis de nouveau à l'école, sans la présentation d'un certificat sanitaire. La maladie serait signalée dans le bulletin que la famille doit garder.

Ainsi seraient vaincues bien des susceptibilités, bien des répugnances de la part des parents qui tous ont confiance dans la discrétion professionelle du praticien. En outre, ceux d'entre eux qui, de parti pris,

ou par négligence auraient pu soustraire leurs enfants à ces examens périodiques, durant la première enfance, ne pourront plus s'y dérober, alors qu'ils voudront leur faire donner le pain de l'intelligence, à l'école ou au pensionnat.

Du reste, Messieurs, dans certains pays, le législateur a décrété l'instruction obligatoire. Ne pourrait-il pas étendre cette loi, en voulant que, par tous les moyens possibles, on favorisât le développement physique des élèves par ce contrôle régulier de leur santé? C'est, d'ailleurs, à ce but que l'on tend par la création d'écoles et de sociétés de gymnastique. Je soutiendrai toujours, qu'avec des examens méthodiques, on obligerait les familles à prendre plus de soucis de leurs enfants, que l'on reconnaîtrait souvent ainsi des indices qui, en appelant l'attention du praticien, lui permettront parfois d'enrayer le développement d'un état diathésique encore latent et de faire ainsi une bonne et saine prophylaxie. Et qu'à ce sujet il me soit permis de vous faire remarquer, ce que vous savez tous, qu'une croissance prématurée est souvent l'indice de nervosisme ou de tuberculose, une croissance tardive celui du rachitisme.

C. *Dans les asiles*, on rencontrera encore moins de difficultés; car on a affaire à des enfants abandonnés ou orphelins et il n'y aura pas à lutter contre un parti pris.

C'est dans un asile d'orphelins que j'ai commencé à pratiquer mes mensurations; mais ce travail est encore trop récent pour que je puisse formuler des conclusions qui s'imposeront dans quelques années. Il me suffit de vous dire ici que je suis heureux des résultats obtenus et vous trouverez, à la fin de ce travail, quelques tableaux qui pourront diriger dans leurs recherches ceux d'entre vous qui voudront bien m'aider de leur concours.

Laissez moi rapidement maintenant vous indiquer les avantages que peut présenter cette méthode soigneusement suivie.

Dans toutes les familles, on conservera les bulletins de santé, de même que beaucoup de parents conservent, avec raison, les prescriptions du médecin; et, lorsque pour des motifs quelconques, il y aura lieu de consulter un médecin nouveau, sa tâche sera plus facile, si on lui présente des observations à l'aide desquelles il pourra reconstituer l'histoire physique de l'enfant, de même qu'il lit celle d'une pneumonie sur une courbe thermométrique, quand il s'agit d'un malade.

Le médecin des écoles verra aussi s'aplanir devant lui bien des difficultés et il pourra, à l'aide des registres établis, fournir à la science de précieux documents pour l'étude de la physiologie et de la pathologie.

Dans les asiles, (ici, Messieurs, je ne fais que transcrire les paroles prononcées par moi, en 1888, au Congrès gynécologique et pédiatrique de Madrid), "on formera une véritable histoire organique du pauvre " abandonné, ce qui permettra de lui remettre plus tard l'étude complète " de son développement, durant son enfance, des maladies qu'il a subies " et l'indication des mesures d'hygiène qu'il lui convient d'observer plus

" particulièrement. Ainsi le malheureux orphelin trouvera dans la " société une mère pleine de prévoyance et d'affection, dont le souvenir " chéri le poussera dans la voie du bien, au lieu d'une marâtre qui lui " jettera à la face l'abandon dont il a été victime et la bâtardise de son " origine."

Par ce moyen aussi, nous ne rencontrerons plus de ces gens qui, au cours d'une maladie, ne peuvent fournir aucun renseignement sur leur passé pathologique. Et pourtant, Messieurs, que de notions précieuses apporte au diagnostic, au pronostic et au traitement, l'histoire des maladies si nombreuses de l'enfance !

Dans le domaine médico-légal, la tâche du praticien appelé à se prononcer sur des questions si graves de responsabilité sera rendue plus facile, il pourra, d'un coup d'œil, reconnaître si les tendances vicieuses qu'a présentées le sujet durant son enfance, n'ont pas pu, en le déséquilibrant, faire de lui un inconscient; et ainsi la société évitera de frapper un innocent. Vous aurez de cette façon, Messieurs, comme le réclame votre programme, un moyen graphique, (si je puis m'exprimer ainsi), de constater périodiquement le *degré moyen normal dans le développement intellectuel et corporel; quant aux causes qui le retardent*, vous pourrez souvent les constater par une étude approfondie des documents qui vous seront présentés; *les tendances héréditaires* vous seront nettement exposées par les bulletins que vous présenteront les parents et, dans les asiles, par l'examen d'un régistre spécial, comme celui que j'ai fait établir à Madrid, à l'asile que je dirige au point de vue sanitaire et dont je vous présente à la fin de ce travail le spécimen de l'un des feuillets.

Les conditions sanitaires du domicile et de l'école seront également fournies par l'étude comparative de bulletins provenant de différents quartiers, de différentes rues. On verra facilement si, dans telle contrée, telle ville, tel quartier, ou même telle école d'un même quartier, certaines influences ont agi sur le développement des forces tant psychiques que corporelles. En comparant encore dans l'ordre chronologique, vous constaterez que telle ou telle *épidémie* a joué un rôle important dans ce développement. Ne serait-il pas curieux de constater aujourd'hui quel a été, dans ce sens, le rôle qu'a pu jouer ou que jouera sur nos jeunes générations les épidémies d'influenza ou de diphtérie qui font et dont les conséquences font aussi, tant de victimes? Enfin, vous remarquerez dans les ateliers, dans les industries diverses, quelles sont les professions qui peuvent favoriser ou retarder ce développement et, ainsi, vous répondrez à la dernière question concernant *l'hygiène personnelle* et, j'ajouterai professionnelle.

À ce sujet, dans un travail couronné par la Société espagnole d'Hygiène, *Sur le Travail de la Seconde Enfance*, j'ai indiqué la nécessité des livrets sanitaires non-seulement dans les familles, mais encore dans les ateliers divers.

Tels sont, Messieurs, esquissés à grand traits, les considérations que j'ai l'honneur de soumettre au Congrès. Je suis certain de trouver

parmi vous des confrères dévoués qui voudront bien m'aider de leurs lumières et de leur concours dans une tâche à laquelle je consacrerai toutes mes forces; et je me féliciterai si j'ai pu faire passer dans vos esprits une conviction inébranlable.

En conséquence, je vous prie de vouloir bien émettre le vœu suivant:—

Le Congrès émet le vœu qu'une propagande active se fasse de toutes parts pour que des études anthropologiques et anthropométriques soient pratiquées périodiquement par les médecins au sein des familles; pour que dans chaque école, asile ou atelier on établisse un registre spécial où en même temps que les progrès intellectuels, soient consignés les résultats des mensurations, les antécédents héréditaires et l'histoire pathologique des enfants. Les divers États doivent, dans leur législation sanitaire respective, adopter les dispositions nécessaires à ce but, afin que chacun puisse posséder une histoire complète de sa vie physique.

APPENDIX.

TRADUCTION du chapître III du règlement Sanitaire de l'Asile du Sacré-Cœur de Jésus à Madrid, relativement au "Livre Sanitaire."

ART. 11. Le but du livre sanitaire est de conserver d'une façon co-ordonnée toutes les particularités intéresant la santé de chaque élève.

ART. 12. On y consignera les faits suivants:—

1° Nom de l'élève, numéro d'ordre, lieu de naissance, âge, antécédents de famille, maladies souffertes avant l'admission à l'asile;

2° Filiation à l'entrée;

3° Examen annuel du développement;

4° Histoire pathologique résumant les affections éprouvées pendant le séjour à l'asile;

5° Observations sur l'avenir physique.

ART. 13. En même temps que la filiation, on inscrira à l'entrée les faits suivants:—Poids; Taille; Force; Acuité visuelle; Capacité pulmonaire; Périmètre thoracique; Forme, diamètres de la tête et toute particularité digne d'être signalée au point de vue anthropométrique.

ART. 14. Chaque année on pratiquera ces examens pour constater le développement des enfants.

Mensurations anthropométriques (Juin 1891).

Tableau des maximum, minimum, moyennes.

Nomenclature des Mensurations.		1ère Série de 5 à 6 ans, 1 élève.	2e Série de 6 à 7 ans, 4 élèves.	3e Série de 7 à 8 ans, 13 élèves.	4e Série de 8 à 9 ans, 15 élèves.	5e Série de 9 à 10 ans, 15 élèves.	6e Série de 10 à 11 ans, 33 élèves.	7e Série de 11 à 12 ans, 25 élèves.	8e Série de 12 à 13 ans, 18 élèves.	9e Série de 13 à 14 ans, 21 élèves.	10e Série de 14 à 15 ans, 10 élèves.	11e Série de 15 à 16 ans, 8 élèves.	12e Série de 16 à 17 ans, 9 élèves.	13e Série de 17 à 18 ans, 2 élèves.
Poids	max.	17·800	19·300	23·500	24·000	26·700	31·500	35·300	48·000	49·400	42·000	53·000	51·400	55·900
	min.	17·800	17·509	15·300	18·000	14·800	18·000	22·200	25·000	25·600	29·300	28·400	40·000	46·000
	moy.	17·800	18·325	18·850	20·600	22·340	25·480	29·352	30·900	32·652	37·100	42·600	47·550	50·950
Taille	max.	1·098	1·140	1·222	1·240	1·312	1·365	1·430	1·520	1·580	1·490	1·575	1·680	1·620
	min.	1·098	1·052	1·030	1·080	1·050	1·135	1·178	1·190	1·235	1·320	1·257	1·552	1·433
	moy.	1·098	1·090	1·129	1·191	1·210	1·263	1·307	1·351	1·403	1·425	1·492	1·602	1·526
Périmètre thoracique	max.	51·	57·	59·	62·	63·5	65·5	68·5	79·5	77·	77·	83·	85·	86·
	min.	51·	53·	48·	52·	49·	51·	57·	59·	61·	64·	63·	79·	82·
	moy.	51·	55·4	54·23	56·7	58·4	60·	63·24	65·7	67·70	70·08	74·8	81·03	84·
Capacité pulmonaire	max.	0·80	1·10	1·23	1·60	1 78	1·94	2·13	3·27	2·50	2·59	3·13	3·77	3·57
	min.	0·80	0·75	0·45	1·00	0·49	0·80	1·10	1·40	1·28	1·20	1·82	2·60	3·55
	moy.	0·80	0·90	0·93	1·25	1·24	1·56	1·69	2·16	1·45	2·16	2·67	3·04	3·56
Développement des bra	max.	1·105	1·12	1·250	1·260	1·295	1·400	1·445	1·530	1·630	1·490	1·630	1·660	1·620
	min.	1·105	1·08	1·055	1·094	1·020	1·140	1·190	1·200	1·230	1·354	1·280	1·540	1·460
	moy.	1·105	1·09	1·130	1·174	1·200	1·259	1·320	1·347	1·409	1·434	1·520	1·602	1·540

Mensurations anthropométriques (Juin 1891)—*continuées.*

Nomenclature des Mensurations.			1ère Série de 5 à 6 ans, 1 élève.	2e Série de 6 à 7 ans, 4 élèves.	3e Série de 7 à 8 ans. 13 élèves.	4e Série de 8 à 9 ans, 13 élèves.	5e Série de 9 à 10 ans, 15 élèves.	6e Série de 10 à 11 ans, 33 élèves.	7e Série de 11 à 12 ans, 25 élèves.	8e Série de 12 à 13 ans, 18 élèves.	9e Série de 13 à 14 ans, 21 élèves.	10e Série de 14 à 15 ans, 10 élèves.	11e Série de 15 à 16 ans, 8 élèves.	12e Série de 16 à 17 ans, 9 élèves.	13e Série de 17 à 18 ans, 2 élèves.
Longueur	du bras	max.	37·5	36·4	41·	41·8	43·2	46·	47·5	51·	55·	52·	55·5	59·	55·
		min.	37·5	35·2	32·2	35·5	35·	36·	39·5	40·	41·	45·5	41·	52·5	50·
		moy.	37·5	35·5	36·9	38·	40·2	41·8	42·4	42·8	48·9	47·2	51·17	56·	52·5
	de la main	max.	12·2	13·	13·	15·6	15·	17·	16·8	18·5	19·	18·2	18·2	20·	19·
		min.	12·2	12·	11·5	11·2	12·	12·5	13·	14·	14·5	15·	16·	17·5	16·
		moy.	12·2	12·5	12·44	12·90	13·6	14·4	14·8	15·6	16·2	16·59	17·8	18·	18·5
	du pied	max.	19·	19·	20·7	21·	21·	25·5	24·	27·	28·	26·	27·	28·	26·
		min.	19·	17·5	15·	17·8	16·5	19·	19·3	20·	21·	23·	22·	25·5	24·
		moy.	19·	18·17	18·5	19·	20·	21·10	22·20	22·38	23·08	24·05	25·4	26·9	25·
Diamètres craniens	bi-pariétal	max.	26·	28·	28·8	29·	29·	30·2	31·	29·5	30·	31·	32·	31·	30·
		min.	26·	27·	26·	26·2	27·	26·	27·	27·	27·	27·	29·	29·	30·
		moy.	26·	27·57	27·7	27·9	28·2	28·	27·6	28·2	26·8	28·9	29·1	29·8	30·
	occipito-frontal	max.	35·	36·3	38·2	37·5	37·2	40·1	39·	40·	37·5	38·5	38·	39·5	38·
		min.	35·	35·3	33·5	34·2	33·4	35·	34·	35·	33·	35·	34·	36·	36·
		moy.	35·	36·	35·4	35·9	35·28	36·	36·	36·	36·1	36·5	37·	37·4	37·
	circonférenciel	max.	46·8	48·	48·	50·	50·	50·2	51·	51·	54·	53·	54·	54·	52·
		min.	46·8	46·5	43·5	45·5	44·	46·	45·	46·	47·	48·	46·	49·	52·
		moy.	46·8	47·	45·9	46·9	47·5	48·1	49·5	48·7	49·8	49·73	51·	51·10	52·

Mensurations anthropométriques (Juin 1891)—*continuées.*

Nomenclature des mensurations.		1ère Série de 5 à 6 ans, 1 élève.	2e Série de 6 à 7 ans, 4 élèves.	3e Série de 7 à 8 ans, 13 élèves.	4e Série de 8 à 9 ans, 13 élèves.	5e Série de 9 à 10 ans, 15 élèves.	6e Série de 10 à 11 ans, 33 élèves.	7e Série de 11 à 12 ans, 25 élèves.	8e Série de 12 à 13 ans, 18 élèves.	9e Série de 13 à 14 ans, 21 élèves.	10e Série de 14 à 15 ans, 10 élèves.	11e Série de 15 à 16 ans, 8 élèves.	12e Série de 16 à 17 ans, 9 élèves.	13e Série de 17 à 18 ans, 2 élèves.
Force au dynamomètre. main gauche	max.	3·	7·	8·	15·	12·	19·	20·	29·	29·	30·	38·	37·	38·
	min.	3·	4·	2·	5·	5·	6·	9·	10·	14·	12·	19·	28·	29·
	moy.	3·	5·	5·5	8·	8·5	10·	13·16	15·6	20·09	22·89	27·5	33·1	33·5
main droite	max.	3·	6·	8·	14·	12·	17·	20·	24·	27·	31·	34·	40·	36·
	min.	3·	3·	1·	5·	4·	5·	8·	9·	12·	14·	13·	25·	33·
	moy.	3·	4·2	5·	6·5	7·8	8·9	11·5	14·2	17·	20·	24·33	30·02	34·5
Tableau des Moyennes.														
Poids		17·800	18·325	18·850	20·600	22·340	25·480	29·352	30·000	32·652	37·100	42·600	47·350	50·950
Taille		1·098	1·090	1·129	1·191	1·210	1·263	1·307	1·351	1·403	1·425	1·492	1·602	1·526
Périmètre thoracique		51·	55·4	54·23	56·7	58·4	60·	60·24	65·7	67·70	70·68	74·8	81·03	84·
Capacité pulmonaire		0·80	0·90	0·93	1·25	1·24	1·56	1·69	2·16	1·45	2·16	2·67	3·04	3·55
Développement des bras		1·105	1·09	1·130	1·174	1·200	1·259	1·320	1·347	1·409	1·434	1·520	1·602	1·540
Longueur du bras		37·5	35·5	36·9	38·	40·2	41·8	42·4	42·8	48·9	47·2	51·17	56·	52·5
„ de la main		12·2	12·5	12·44	12·90	13·6	14·4	14·8	15·6	16·2	16·59	17·8	18·	18·
„ du pied		19·	18·17	18·5	19·	20·	21·1	22·20	22·38	23·08	24·05	25·4	26·9	25·
Diamètre bi-pariétal		26·	27·57	27·7	27·9	28·2	28·0	28·	27·6	28·2	26·8	28·90	29·8	30·
„ occipito-frontal		35·	36·	35·4	35·9	35·28	36·	36·	36·	36·1	36·5	37·	37·4	37·
„ circonférenciel		46·8	47·	45·9	46·9	47·5	48·1	49·5	48·7	49·8	49·73	51·	51·10	52·
Force au dynamomètres main dr.		3·	5·	5·5	8·	8·5	10·	13·16	15·6	20·09	22·89	27·5	33·1	33·5
„ „ „ g.		3·	4·2	5·	6·5	7·8	8·9	11·5	14·2	17·	20·	24·33	30·02	34·5

DISCUSSION.

Dr. Gallandet (President of the National Deaf-mute College, Washington, D.C., U.S.A.), said: I have listened with the greatest pleasure to General Moberly's paper on the education of deaf-mutes. As you are probably aware, there are several matters of interest connected with the education of the deaf which may be called burning questions; and among them there is none of greater consequence than the question of method. In regard to the different ways of teaching, there have been differences of opinion that have amounted actually to a war of methods, and the views expressed by General Moberly are so entirely in accord with the best sentiment in America to-day, that I have great gratification in endorsing them. On entering the hall this morning, I received a paper which has been, I notice, generally distributed, in which the assertion is made that "the oral method of teaching the deaf succeeds with all " except those who have imperfect vision or defective intellect." No error can be greater than this, for it has been abundantly proved in America, as also in England, as stated by General Moberly, that many of the deaf do not possess that faculty, the existence of which is quite as necessary to the successful acquisition of speech, as is the musical faculty in a normal person to success in music, or the artistic faculty to success in art. *With* this faculty, a deaf child, even though born deaf, may certainly learn to speak under proper instruction; but without it, absolute failure occurs in many cases, and in many others that half-success which is often worse than failure. Now it is entirely possible, in very many of these cases, where the attainment of speech is impracticable, for the deaf-mute to secure a high degree of education under the manual method. Consequently a general system which makes a judicious combination of the two methods is beyond all question to be preferred.

I desire, then, to direct the attention of the Congress to the higher education of the deaf, and would urge that a suitable amendment be offered to the legislation recommended to Parliament by the Royal Commission, which shall authorise the extension, in certain well recommended cases of exceptional ability, of the limit of time up to which State aid may be given. For example, that five years be added to provide for this higher education, a curriculum for which could easily be arranged in some existing primary institution. This course was pursued at Washington more than 25 years ago in the institution with which I am connected; and the college for deaf-mutes in that city, handsomely sustained by the Federal Government, has carried large numbers of the deaf through an advanced course of study in the ancient and modern languages, the higher mathematics, the natural sciences, history, &c., &c., up to the point of graduation, with degrees in the arts and sciences. This, I trust, may soon be done in England. I would further express my great satisfaction with the paper on the education of the blind. Dr. Campbell, its distinguished author, and my most esteemed fellow countryman, needs no commendation from me here. You have adopted him, and his noble work in creating and establishing on enduring foundations the Royal Normal College for the Blind will be his monument.

In the views I have expressed, I take pleasure in saying I have the hearty support of my colleague in our profession, Dr. Warring Wilkinson, principal of the California Institution for the Deaf and Dumb and the Blind, who is in attendance here with me this morning. We join in

the earnest wish that the cause of the deaf and the blind, always popular in this benevolent country, may be still further advanced on the lines indicated in the able papers presented by General Moberly and Dr. Campbell.

Dr. Gutzmann (Berlin) sagte :—Meine Worte sollen sich auf den Vortrag von Herrn Moberly beziehen. In Deutschland ist bekanntlich durchweg die orale Methode des Taubstummen-Unterrichtes eingeführt. Leider hat sich in Deutschland in letzter Zeit eine Opposition gegen die orale Methode geltend gemacht. Der Hauptgrund, welchen man gegen diese Methode anführt, ist, dass die Taubstummen, welche sich der Lautsprache bedienen, bei der Unterhaltung nicht zu sich selbst, sondern nur zu Anderen sprächen, und dass infolgedessen die orale Methode widernatürlich sei. Dieser Einwand ist gänzlich unberechtigt. Die Taubstummen sprechen, wenn sie sich der Lautsprache bedienen, auch zu sich selbst, und zwar wird die Kenntniss des Gesprochenen, das Verständniss der einzelnen Laute vermittelt durch den Muskelsinn. Es ist eigenthümlich, dass die Gegner der oralen Methode diesen Punkt ganz ausser Acht gelassen haben. Dass aber die orale Methode auch bei weniger begabten Taubstummen durchgeführt werden muss, ist eine absolute Forderung der Hygiene. Es werden bekanntlich unsere Lungen besonders geübt und gekräftigt dadurch, dass wir sprechen. Von dem russischen Arzte Person wurde schon vor Jahrzehnten in einer ausführlichen Schrift dargethan, dass die in Russland in der Zeichensprache unterrichteten Taubstummen in weit grösserer Prozentzahl an Schwindsucht (Lungentuberkulose) erkrankten als die in der oralen Methode unterrichteten deutschen Taubstummen. Dies ist von allen Aerzten, die sich sonst mit der Taubstummenbildung befasst haben, wie E. Schmalz, Hartmann, H. Schmaltz, und besonders von Kussmaul als ein ausserordentlicher Vortheil der oralen Methode hervorgehoben worden. Es ist demnach schon eine Forderung der allgemeinen Hygiene, dass die taubstummen Kinder sämmtlich, auch die schwachsinnigen, in der oralen Methode unterrichtet werden.

Ein zweiter Punkt, auf den ich eingehen möchte, ist das sog. Lippen-Lesen (Lip-reading). Herr Moberly hat Folgendes gesagt :—"I have " been somewhat surprised at the capacity for reading the lips of their " teachers and school-fellows shown by many of the pupils in our classes, " but I fear very few of them are sufficiently advanced to understand " strangers and casual visitors."

Dies trifft auch für Deutschland im allgemeinen zu. Es fragt sich nur, ob diesem Uebelstand nicht abgeholfen werden kann. Die Taubstummen erlernen ihre Absehfertigkeit auf folgende Weise :—

1. Sie erlernen das Absehen der Laute zugleich mit der Lautbildung nach der Lage der Artikulationsorgane, besonders im Inneren des Mundes.
2. Sie werden beim Absehen vom Munde Anderer nach ihrem Gefühl der eigenen Sprachthätigkeit geleitet.
3. Sie erlernen das Absehen nur an dem Munde ihres Lehrers.

Dass die Absehfertigkeit der meisten Taubstummen gegenüber Fremden so gering ist, dass sie häufig genug zu der natürlichen Gebärde ihre Zuflucht nehmen müssen, liegt daran, dass ein eigentlicher Absehunterricht in Taubstummen-Anstalten nicht existirt, dass ferner die sichtbaren Zeichen der einzelnen Laute nicht genügend ausgenützt sind.

In einem demnächst erscheinenden grösseren Werke über die Störungen der Sprache werde ich eine ausführliche Anweisung veröffentlichen, in welcher Weise das Absehen vom Gesichte des Sprechenden als besonderer Gegenstand der Ueberweisung in Taubstummen-Anstalten eingeführt werden könnte. Ich will hier nur hervorheben, dass die Sprachlaute nicht nur von vorn (en face), sondern auch von der Seite (en profil) und zwar bei verdecktem Munde fast sämmtlich abgelesen werden können. (Demonstration Beispiele.) Ferner haben eine Reihe von Silben ganz besondere Bewegungen, welche beim Absehunterricht genau so eingeübt werden müssen, wie der Stenograph seine Zeichen einübt.

Mein Vater und ich haben auf diese Weise viele von Geburt Taube und später Ertaubte zum fliessenden Absehen gebracht. Ein Herr, welcher völlig taub war, war sogar im Stande im Theater vom Parquet aus das Gespräch zweier Damen in der Loge mittelst des Opernglases zu belauschen. Ich freue mich auch schon einmal öffentlich Gelegenheit gehabt zu haben, die Möglichkeit selbst bei verdecktem Munde gut abzulesen zu demonstriren, auf der I. medizinischen Klinik in Berlin von Herrn Professor Dr. Leyden.

Mr. William van Praagh (London) had listened with great pleasure to General Moberly's paper. The action of the school board in this branch of education is most commendable. Having followed the movement from its very beginning, he fully appreciated the difficulty they have had, and have, to deal with; but in his opinion those difficulties are not insurmountable. The association for the oral instruction of the deaf and dumb has supplied the board with its first teacher on the pure oral system, and has carried on a class in Bermondsey under its auspices, until in time the board resolved to adopt the oral system in all its classes, when they naturally withdrew their supervision. He hoped the time will come when the board will be able to adopt the pure oral system in all its classes. He could speak volumes on the subject-matter introduced by General Moberly. Time would only allow him to touch upon a few technical items. He maintained that all deaf children, except the weak minded, can be taught on the pure oral system, and contradicted Dr. Gallandet's objections. In America a society has been started by Dr. Graham Bell for the promotion of teaching of speech to the deaf. Lip-reading is the backbone of the pure oral system. If the child has another vehicle for conveying language to him, he will never get sufficient proficiency in lip-reading; hence systems must *not* be combined. Deaf children must be taught in their early days out of books specially written for them.

Instruction is given to the greatest advantage in day schools. He objected to the hoarding of large numbers of afflicted children in asylums. Many children in schools suffered from defective articulation, resulting in indistinct speaking. These should be collected in classes by their teachers, and should receive treatment from specialists. Every school ought to have the services of an ophthalmic surgeon to examine periodically the sight of pupils.

Dr. Campbell then proposed the following *Resolution*:—

> "That the time has arrived when the blind should have a well-graded, practicable, comprehensive course of instruction. That the training of the blind should not be conducted on a charitable basis, but should form a part of the national system of education."

This was seconded by the President; and was *carried* with the insertion of the words "deaf and dumb" after blind.

A hearty vote of thanks to the Executive of the Section, proposed by Dr. Burgerstein and seconded by Mr. M. Jackson, J.P., was carried by acclamation; and the proceedings of the Section then terminated.

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